AN EPISTOLARY

DISCOURSE

CONCERNING

Phlebotomy.

In Oppoſition to

—G. *Thomſon* Pſeudo-Chymiſt, a pretended Diſciple of the Lord *VERULAM.*

Wherein the *Nature of the Blood*, and the *effects* of *Blood-letting*, are enquired into: and the *practice thereof EXPERIMENTALLY* juſtified (according as it is uſed by *Judicious* Phyſicians.)

In the Peſt, and Peſtilential diſeaſes:
In the Small Pox:
In the Scurvey:
In Pleuriſies:
And in ſeveral other diſeaſes.

By *HENRY STUBBE*, Phyſician in *Warwick.*

Hippocrat. l. 1. Aph. 2.

VASORUM inanitio ſi talis fiat, qualis fieri debet, confert, & bene tolerant: ſin minus, contra. Inſpicere itaque oportet & regionem, & tempus, & ætatem, & morbos, in quibus conveniat, aut non.

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Phlebotomy.

SIR,

IN obedience to your *Commands*, I have read over the Treatiſe of ——— *Thomſon*, concerning *Bloodletting*: I never underwent a more *difficult task* in my life: And had the *Virtuoſi* imagined with what *reluctancy* and *conſtraint* I ſhould undertake *ſuch* a work, they would have abandoned all their *other ſtratagems*, and impoſed on me *this pennance*, as the moſt *ſevere*. I profeſs, I am not ſo underſtanding in the *Greek*, *Latine*, or *Engliſh* Tongues, as to comprehend his *Language*: yet I think I am not ſo much in *default* therein as *He*, who, according to the *peculiar fate* of the *modern Baconiſts*, hath either *out-lived his Learning*, or never was endued *with any*. That *He* ſhould pretend to *read*, or *underſtand* Hippocrates, is a *vanity* equal to that with which *Ecebolius* profeſſeth himſelf to be verſed in the writings of *Ariſtotle*: and when he blames the *Method* which the *Galeniſts* have uſed above this ſixteen hundred years, would not one imagine that the *birth* and flouriſhing *renown* of *Galen* had preceded *thoſe Centuries*: whereas you muſt place *him* in the *ſecond Century*, during the Reign of *Marcus Aurelius*, *Commodus*, *Pertinax*, and *Severus*, or you will contradict the account which *Galen* gives of himſelf, and the relations of other *Hiſtorians*: and at ſuch time as he aroſe, the world was *prepoſſeſſed* with *Methodiſts* and *Empiricks*. But I wiſh his greateſt

G. T. *Vindic. of the Lord* Bacon. *p.* 35.

Lacuna *in vita* Galeni. If. Voſſius *de Philoſ. c.* 12. *ſect.* 19. Suidas *in voce* Γάλην.

errours

errours lay in his *ignorance* of *these things*. Alas! he understands not *any thing* of the *Rudiments* of *Physick*; and to *inform him*, one must write an entire *Body of Physick*. Were it not for a few *hard words* borrowed from *Van Helmont*, such as *Enormon*, *Archæus*, *Daumvirate*, *&c.* and his *extravagancies* about *fortifying the vital spirits*, *ejecting the venome*, or spina *in diseases*, and that by a *diaphoresis* generally, by the means of certain *Arcana*, (more famous for the *death* than *recovery* of his patients) the man would have nothing to say: And do we wonder at the *unfortunate cures* for which he is blamed? or that more than *one* at *White-chappel*, should suffer by his ill-advised Pepper-drops? 'Twere *strange*, should one that neither understands *humane nature*, nor the *types*, *times*, *motions*, and *terminations of diseases*, should ever (except *by accident*) do *any good*; not that *He* should frequently *do harm*. But *a fool may commit more faults than a wiser man than I*, *and of more leisure*, *can discover*. I shall confine my *present address* to the point of *Phlebotomy*; wherein he so traduceth the *Hippocratical Physicians*, as so many murtherers, and particularly declaimeth against the most *judicious* Assembly of *our Faculty*, that *Europe* ever beheld; and who, if they be culpable, are mis-led by the *practice* and precepts of that Author *Hippocrates*, whom *he* himself often *cites*, and to less purpose than I might in *this* controversie alledge him.

Let D. M. take notice here, that there private Arcana, such as the Quacks pretend unto, concealing the Medicaments: and others by that name published in Print, in Crollius, Schroder, and others.

In his Preface to the Reader, he sayes, He doubts not, the time will come, yea, is not far off, that a Phlebotomist (as he hath characterized him) will be looked upon as little better than a Broachotomist, a Cut-throat.

Some years since, I designed to write an enquiry into the *original*, and *nature* of the *Blood*, and the usefulness of *Phlebotomy* in several diseases: in which, abstracting from the *single opinions* of Writers, I purposed to illustrate each point by *practical principles*, and ample *Histories*, out of *intelligent* and *creditable* Physicians, concerning the *bad* or *good* success with which *Blood* hath been let in *diseases*, according to the several *Ages* of the *diseased*, and the *nature* of their *maladies*, whether *Epidemical*,

mical, *Sporadical*, or of a *less general conſtitution*. But the *Controverſies* I have been involved in, have ſo incumbred me, that I have not been able to purſue *theſe intentions*, nor have I any *preparations* almoſt in order thereunto, as yet digeſted into *writing*. But this *Antagoniſt* requires not all *my ſtrength*; a leſs *powerful Aſſault* will ſuffice to overthrow *Him*.

'Tis not any kindneſs to *him*, but *indulgence* to my *ſelf*, that I do not purſue all his *errours*, even in the generation of BLOOD; or go about to convince him of the ſeveral *miſtakes* which he is fallen into, for want of reading more modern *Writers*, and their *diſcoveries*. Beyond *Helmont*, or in *contradiction* to *him*, the man neither *does*, nor *will* underſtand any thing: And even in that *Author* he ſeems ſo little converſant, that he ſometimes miſtakes *him*, and generally repreſents things with more *obſcurity* and *intricacy*, then they are expreſſed in the *originals* of *Van Helmont* or *Grembs*.

Of thoſe that have oppoſed *Phlebotomy*, theſe are not the *firſt*, which *this Century* hath produced: long ago *Galen* complained of *Eraſiſtratus*, (the ſiſters ſon of *Ariſtotle*) that he was ἀιμοφόβος, *fearful to let his Patients blood*; before him, *Chryſippus Cnidius*, *Medius* and *Ariſtogenes*, did reject the uſage: Alſo *Apamantes*, together with *Strato*, are recorded to have contradicted the practice of *Phlebotomy*, by *Arguments*: The ſtrength of that *faction* in *Phyſick*, was ſuch at *Rome*, in thoſe times, that *Galen* ſpent ſeveral *books* againſt the followers of *Eraſiſtratus* upon *this ſubject*. But above *all* that ever intermedled, I will give this character to ——— *Thomſon*, that *never did any preſume more upon ſo weak grounds*: Nor ever was Confidence *ſo poorly mounted, and ſo pittifully be-jaded*.

Galen. de *Sangu. miſſ.* c. 2.

After much trouble and enquiry, the ſum of all, *he* ſayes, in this caſe, amounts to *this*.

The *promiſcuous* maſs of *Blood* which flows in the *Veins* and *Arteries*, he divides into *three parts*: the one

is called by him the *Latex*; the second *Cruor*; the third *Sanguis*, or most properly *Blood*.

G. Th. of the Blood, p. 19, 20.

The *Latex*, so called by *Helmont*, by some *Lympha*, by the *Greeks* ῥεῖθρον, is a *diaphanous clear liquor*, ἄποιος, fabricated in the second digestion, by virtue of a ferment there residing. It is the inseperable companion of the *Bloud*, and closely perambulates with it through all the wandring *Maeandrous pipes* in this *Microcosme*. It is the matter of *Urine*, and *Sweat*, *Spittle*, *&c.* and renders several other considerable services to the body.

Ibid. p. 22.

The *goodness* or *pravity* of the *Latex*, depends much upon the *bloud*, as it is constituted; for, albeit it is no *essential part* thereof, yet is it altered for better or worse, according to the *channels* it passeth through, the *lodging* it taketh up, and the condition of its *associate*: notwithstanding that it may be sometimes impaired in its due *excellency*, and the *bloud* withall remain very pure and sincere.

Ibid. p. 1, 2, and 34.

The *second* part is called *Cruor*, from χρύος, *i. e. Crudus concretus*: It is the more *crude impure* part of the *bloud*; the *purer* part of the *chyle* being digested into a *saline* juyce, is carried into the *milky vessels*, and *veins*, and mingling at last with that *ruddy liquor*, is called *Cruor*, and at last becomes perfect *bloud*. It undergoes manifold guises, and is often the subject matter of a multitude of diseases, being sometimes changed into an *Ichor*, *Tabum*, or *Sanies*.

Ibid. p. 2.

The third part is *properly* called *Sanguis*, or *Bloud*, κατ' ἐξοχὴν, it is a most pure sweet *Homogeneous*, *Balsamie*, *Vital juyce* (for the most part of a bright *Red*, or *Reddish* colour) made by the *Archaeus*, by virtue of ferments implanted in the ventricles of the *heart*, *lungs*, *veins* and *arteries*, causing a formal transmutation of the *Ckyme*, or milky substance into this *sanguineous* liquor, ordained to be the seat of *Life*, and and the principal matter for *sense*, *motion*, *nutrition*, *accretion*, and *generation*.

It

It is for good reason called *Balsamum, seu Condimentum totius corporis*, forasmuch as it hath a *sanative* power, sweetly uniting all the parts of the body, for the conspiration of the good of the whole.

Some peoples flesh will not heal upon the least cut, notwithstanding this Sanative quality *in the* Blood.

It is a great *preservative* against putrefaction, as long as it remains in its integrity, for consisting of many *saline* particles, it seasoneth whatsoever it toucheth with a pleasing *sapour*.

Yet are several glandules *sweeter to taste, than the* sanguineous, fleshly *parts of* Animals.

It is the proper *habitation* of the *vital* spirit, the immediate instrument of the *soul*, in which it shines, displaying its radiant beams every way, that *sensation, motion, nutrition*, and all other functions may be exquisitely performed.

What becomes of the duumvirate *then? And may* I not *ask, if the* Spirits be not *the immediate Instruments of the* Soul?

God and *Nature* never intended other, then that the *blood* should be *Homogeneous*, pure, plain, symbolical with that single principle of the *Universe*. Now these Peripatetick Philosophers deliver to the world, that the contexture of this *vital juyce* is made up of *Choler, Phlegm, Melancholy*, and *Blood*, which united, produce this compounded body, which we call *Sanguis*: How grosly erroneous and dangerous this *Tenet* is, most Learned *Helmont* hath made evident.

Ibid. p. 5.

If God *and* Nature *intended the* blood *for so* pure *and* homogeneous *a liquor; why did they produce man with such a fabrick, that the* chyle (*several ways tinged*) *should mix with it in the* sub-clavian *veins?*

Wherefore we conclude with that noble Philosopher, that *Bloud* is an *Univocal substance*, divisible only by some *external* accidental means, as the *Air*, or *Fire*, which cause a various texture, and different position of its *Atomes*, whereby it seems to consist of parts which are not *really* inherent in it, as is manifest in its degeneration from its

Ibid. p. 6.

its native *colour*, *ſapour*, *conſiſtence*, and *goodneſs*, which it had before it became corrupt in the pottinger, or underwent the torture of fire. *Both* of which do ſtrangely larvate and diſguiſe the *puniceous Balſome*, giving occaſion to the *Galeniſts* to frame their *four fictitious humours*, no where really exiſtent.

This being the foundation of all *his* declamations againſt *Phlebotomy*, before I proceed any farther, it may ſeem requiſite that I ſhould make ſome Animadverſions thereon;

I might take *much* notice of, and diſplay his errours, as to what he ſayes, that the *Latex* is by the *Greeks* called ῥεῦμα: this is the *firſt* time I ever *read* it called ſo: the uſual terms being ἰῶρ, ἰχὼρ, and ὑγρασία. The *notion* (whatever *Helmont* ſay) is not new *at all*: an hundred *Galeniſts* have *mentioned* and *treated* of it, as the *vehicle of the bloud and nouriſhment*. But that *cruor* ſhould come from κρύος, *crudus concretus*, is an opinion ſingular to the *Baconical Philoſopher*. That κρύος doth ſignifie *cold*, I know well: and that *cruor* properly ſignifies the the *bloud* of *dead people*, or the *mortified bloud* iſſuing from *putrefied wounds*, I no leſs underſtand; though *Authors* frequently confound it with *Sanguis*; But that his *Latex*, and the *Lympha*, ſo called by *moderns*, are the *ſame*, is *news*: for, it is not held that the *Lympha*, in its *peculiar form*, was pre-exiſtent in the *Arteries*, and, *as ſuch*, did accompany the *Blood* through the *Meandrous pipes*, but is *generated* as it is diſcharged into the *Lymphæducts*, and from them is re-mixed with the *bloud*: And, if it were, yet would not the definition of this *Latex* agree with *it*: for the *Lympha* is no inſeparable companion of the bloud; as appears by its *peculiar veſſels*: it is ſeldome a *diaphanous clear liquor*, being commonly tinged with *ſeveral colours*, oftentimes *whitiſh*, ſometimes *yellow*, or,

C. Hofmann. de Ichor, ſect. 12, 13. 9. Th. Scheuck. de ſero ſangu. c. 1.

Gliſſon. de hepate, c. 45. Charleton. Oecon. Anim. exercit. 9. ſect. 7.

a Gliſſon. Anat. hepat. c. 45. Quippe tota hæc Lympha, nisi experientia, compertum eſt, denſior, minuſque pellucens, & interdum lactis inſtar albeſcens, aliquando ſuffluva. & nonnunquam lotura carnis ſimilis. Vide Charlton, ubi ſupra.

as

as it were *stained with blood.* And whereas this *Latex* is devoid of all *sensible qualities*; those who have experimented the *Lympha*, do not find *any such thing*, but a variety of *tasts*: Nor is it true that the *Serum* which accompanies the *Blood* is such a *Latex* as our *Helmontian describes*; it being never (to my taste) free from a *salsuginous saporr*, (though it retain *that* with a great *Latitude*) nor devoid of *colour*, so as to be *clear* and *diaphanous*: and tis very *seldome* seen, that the said *Serum* will not [b] *coagulate*, unless *preternaturally*) upon a *gentle fire*: so that it is no more to be termed a *Latex*, than the *whites* of *eggs* beaten to the like *fluidity*: In like manner that in the *Lymphæducts* will [c] *coagulate*, as *Bartholin* observes, and *others*.

b *Centies facto experimento, vadi semper serum ipsum non modo leviter incrassari, sed agglutinari fierique membraneum.* H. Barbat. *diss. de sangu. & sero.* pag. 16. c *Th. Bartholin.* Spicileg. p. 71. M. Boggdan. apolog. adv. *O. Rudbek.* lect. 116.

As for the *Cruor*, that there are *graduations* of the *Blood*, as to its *crudity* and *impurity*, is no doubt amongst the *Galenists*: and that it may oftentimes transcend the state of *due maturation*, and so become *degenerate*, is as easily granted, as that it should come *short of its desired perfection*; and when this *Blood degenerates* any way into a *Tabum*, or *sanious matter*, I must tell him, that *Aristotle* and his *followers* acquainted us therewith, before that *Helmont* was ever heard of, whose *Cruor* bred in the *Liver*, and distinct from the *Blood*, impregnated with *vitality*, is such a piece of *non-sense*, as ought not to be mentioned in this *Age*, but to *Baconical Philosophers*, who, not only *connive* at, but applaud any *Hypothesis*.

Vide Hofman. *de Ichoribus*, sect. 71, &c.

Concerning the *Blood*, when I read the *Elogies* he bestowes upon it, as the *Seat of the Soul, by which sensation, motion, nutrition, generation, are performed*; I thought upon the opinion of *Aristotle*, and his zealous *sectators* amongst the *Physicians*, who have denied all *Animal spirits*, fixed the *principality* of the *Members* in the *Heart*, and

and from thence derived even the *nerves*. If *G. T.* will defend the *generality* of his *Assertion*, I assure him that *Hofman*, *Van der Linden*, and *Harvey*, will be more serviceable to him than *Van Helmont*: But this *consideration* hath little influence upon the present Controversie: that which follows hath nothing of *Truth* in it: that *the Bloud is an Homogeneous, pure body*: for nothing homogeneous can ferment: But it is most evident, that the *bloud* is in a *perpetual fermentation*, and that it is such a *liquor*, as is constantly *generating*, constantly *depurating*, and constantly *expending it self*: so that nought but *Imagination* can represent unto us such a thing as *pure bloud*: and I hope the *specious pretences* of a *Real Philosophy*, will not terminate in *Speculation* and *Phansie*. When the *bloud* either *naturally* issues forth, or upon incision of a *vein*, it representeth unto us different *Phænomena* oftentimes in several porringers, and in the same porringer *different substances*; sometimes a supernatant *gelatine*, and *mucus*, a *coagulated mass*, consisting of thinner, and a *less fibrous crimson*, and a *grosser*, *and more blackish-red body*, *enterwoven with fibres* (both which may be washed away from the *fibrous part*): and a *serous*, *fluid liquor*, sometimes *limpid*, sometimes of a *bilious*, or *other colour*, in which the *concreted mass of bloud doth float*: All these, with other *Phænomena*, (in a great variety) are to be seen in the aforesaid cases: and even the *Bloud* of the *same body*, as it issues from *several veins*, furnisheth us with matter for *different observations*. Now in a *liquor* so *pure* and *Homogeneous*, as our Disciple of the Lord *Bacon* imagineth the *Bloud* to be, though we should suppose the *Air* to corrupt *it*, as it *issues into*, and *settles* in the *pottinger*, yet would the *corruption* thereof be *uniform*: which, seeing *it is not*, I take it for *demonstrated*, that it is *Heterogeneous*: And that being *granted*, it matters not whether the *four humours* (so frequently mentioned by *Physicians*) be *actually* or *potentially* in the *bloud*: Whether they be the *constitutive* parts thereof, or whether it be

Dr. Willis *de ferment. c. 6.* Kerger. *de fermentat.* sect. 1. c. 11.

E venis capitis nunquam talem muccaginem affluentem vidimus, crebrius è venis brachii, è pedum autem venis creberrimè, & in majori copia. Mœbius *fundam. medic. de usu Cordis.* p. 259

be one *entire Liquor*, made up of *Heterogeneous* parts, which, in the bodies of ſundry *individuals*, produceth ſuch *Phænomena*, as if it did conſiſt of ſuch *Alimentary Humours*, and degenerates *occaſionally* into thoſe *others* that are *Excrementitious*: In order to our *practice*, 'tis all one for it *to be ſo*, and to *appear ſo*: and our *documents* are nevertheleſs *uſeful*, though they ſeem not *rigorouſly true*. The *Galenical Phyſicians* are not *herein* agreed; nor is any man confined in his *ſentiments*, about *this ſubject*: 'Tis *malapertneſs* in this *Bacon-faced* generation, to diſpute theſe *points*, ſince the *phænomena* of diſeaſes, and the *operation of Medicaments* doth correſpond with this *Hypotheſis*, and are as *adequate* thereunto, as *humane nature* (which is not capable of an *exact knowledge*, and ought to acquieſce in what is *uſeful*) can adjuſt *them*. Nor is it any more of diſparagement to *Phyſick*, that ſhould be built upon ſo *tottering a foundation*, then that the Temple of *Diana*, one of the *wonders* of the *world*, ſhould be *ſituated* upon a *bogg*.

Hitherto I have examined his *preliminary* diſcourſe of the *Bloud*, and its concomitant *Latex*, and have made it evident, that this perſon underſtands not *what he aſſerts*, nor *what he rejects*: and indeed ſuch is his *ignorance*, that after ſo much *ſtudy*, "having *rolled every* 'ſtone, *and ſearched out every ſcruple, to be informed con-* 'cerning the truth of the Galenick, *and* Helmontian *way*, p. 87. he underſtands neither *Nature* nor the *Galeniſts*, nor *Van Helmont*. I now come to examine his *Arguments* againſt *Phlebotomy*, which, if they be ſo *weak* and *inconſiderable*, as not to juſtifie ſo *extraordinary* an *impudence*, let him blame *himſelf* not *me*, who do not intend (if poſſible, in ſuch a *confuſed, obſcure* Treatiſe) to *injure him in the recital*.

His firſt Argument againſt Phlebotomy.

"Had *they* but conſidered how this *vital moyſture* p. 6, 7. '[the *Blood*] ebbs and flows in *goodneſs* and *pravity*,

'upon ſlight accidental occaſions of any exorbitant paſ-
'ſions, as *fear, ſorrow, anger, &c.* the manifold impreſ-
'ſions of the *ambient Air, ill Diet*, immoderate exerciſe,
'divers exceſſive evacuations and long retention of any
'excrement: did they rightly underſtand how *blood*,
'like *Mercury*, may be *polymorphiſed*, and changed into
'different ſhapes, and at length be *retroduced* to the ſame
'ſtate and condition, as when it was in its *primitive eſ-*
'*ſence*: certainly then theſe *Dogmatiſts* would never be
'ſo forward to pierce *poor man's skin*, raſhly let out and
'throw away that *ſubſtantial ſupport of life*, fooliſhly and
'falſely apprehending that to be *totally corrupt*, and de-
'prived of what it was in its former being, and in no
'wiſe capable to be retrograde, and return to it ſelf
'again; becauſe it ſeems to *their eyes* when it appears
'abroad *diſcoloured*, inveſted with a contemptible appa-
p. 18. 'rel, as *yellow, green white, blue, &c.* —— "ſuppo-
'ſing it to be corrupt, and ſo unfitting to be retained
'within the verge of life. It is no ſuch matter, I can
'maintain: for this *ſuperficial alteration* proceeds from
'the *Air*, ſpoiling it of its priſtine *goodneſs*, not that it was
'really corrupted in the *vein*. For the demonſtration of
'this, I will undertake, upon forfeiture of a great penal-
'ty, to open the vein of a *Cacochymic* body, emitting
'about two or three ounces of the *viſible* aforeſaid *dege-*
'*nerate matter*, then ſtopping the Orifice, make uſe of
'*proper remedies* to this Individual, whoſe habit I doubt
'not ſo to alter in the ſpace of about a fortnight, that
'no ſuch *putrid matter* as they *improperly* call it, ſhall
'be found in any vein whatſoever opened; which may
'fully ſatisfie any *ſober enquirer after truth*, that the cor-
'ruption was *never* really exiſtent in that, whilſt it was
'in the *vein*, which, in ſo ſhort a time is thus redintegra-
'ted: for *Corruption* being an *abſolute privation* of that
'*formal eſſence* of the thing: and ſith there is *no retrogra-*
'*dation in this kind*, that an *Ens* loſing its *form* by diſſo-
'lution, ſhould aſſume it again, *Nam à privatione ad*
habitum

'*habitum non datur regreſſus*: it *infallibly* follows, that 'this juyce thus *reſtored*, *Technicks*, by *Art*, was never 'truly *corrupted*, as they would have it. Hence it fol-'lows, that the fair pretence of the *Galeniſts*, that the 'juyce *drawn out of the Patient*, *forasmuch as it is corrupt* 'in the porringer, *is happily diſcharged*: appears a mere 'impoſture, contrived on purpoſe to ſtop the mouth of 'thoſe who ſcruple and queſtion *Phlebotomy*.

This is the *principal Argument* which he hath againſt *Phlebotomy*; yet doth he ſo handle it, as that the *onely evidence* it carries with it, is, that the *Author* is a moſt *illiterate perſon*.

It is very *ignorantly* done of him, to make as if the *Galeniſts* in general did *let* their Patients *bloud*, merely for a *Cacochymy*, or *depravation of the bloud*, as if it were a *Rule* amongſt them, that Whenſoever the blood is depraved, vitiated, and corrupted, it ought to be emitted by Phlebotomy. Whereas there is not any tenet amongſt them more general, then that Cacochymical bodies require purging; the Plethorick, or ſuch as are in danger to be ſurcharged with exceſs of blood, require Phlebotomy; nor do *they* recede from this *reſolution*, but in *urgent caſes*, and with *deliberation*: and many are ſo *cautious* herein, that if the *bloud* appear in the *porringer* to be of an *evil colour*, and *very corrupt*, they enjoyn us to ſtop the vein *preſently*, and not *continue* or repeat the *evacuation*. I ſhall ſet down the words of *Horatius Augenius*.

Valleſius method. medend. *l.* 2. *c.* 4.

Hic vulgarium Medicorum error detegendus eſt. Putant quo ſanguis impurior fuerit, & à ſua natura magis alienus, eo plus detrahendum, & in hoc mirifice ſibi placent, in vulguſque proponant admodum utilem factam fuiſſe vacuationem, quod corruptiſſimum peſſimumque ſanguinem vacuaverint. Tu vero cui in animo eſt humano ge-

Horat. Augen. de miſſ. ſangu. *l.* 9. *c.* 24.

neri prodesse, & Medicinam inculpate exercere, contra facies; quanto enim magis sanguinem videbis à propria natura discedere, tanto minorem quantitatem vacuabis, & aliquando (nisi copia urgeat cacochymiæ permista) à venæsectione prorsus abstineto. Nor is this the judgment of a *single writer*; hundreds are of the *same opinion*: the Learned *L. Septalius* Animadv. Medic. *l.* 4. *sect.* 2. is of the same judgment. *In sanguine detrahendo cavendum maxime, ne, quanto putriorem, & deterioris conditionis sanguinem è vena profluere viderimus, tanto majorem quantitatem effluere sinamus: quod plurimos facere observamus: tali enim existente sanguine, & pauciores subesse spiritus constat, & vires facillime solent collabascere.* Even *Galen* and *Avicen* are alledged *for it*: And it ought with *less reason* to be objected in *England*, because our *Physicians* generally (as likewise are the *Germans*) seem not so *prodigal of the bloud of their Patients*, as to make a *Cacochymie, much less, a* διαφθορά, or *total corruption of the sanguineous mass* to be the *proper indication* for *bleeding*: nay, most that hold *Blood-letting* in great diseases arising from *Cacochymie*, to be a *necessary remedy*, (not indicated by the *depravation of the bloud*, but *violence of the disease*;) they are cautious in the *quantity* which they take away, because in *such an habit of body* the *strength* of the patient is *seldom* great enough to bear *much*. Out of which it is manifest, that what he sayes about the *impurity of the bloud in the porringer*, that 'tis an *excuse* or *imposture* used by the *Galenists* in defence of *Phlebotomy*: it is a fiction of *his own*, not made use of *directly* by any but the followers of *Botallus*: the rest will give *him* other reasons for *their practice*, than a *Cacochymie* alone, or *total corruption* of the *mass of bloud*.

Petrus Castel. de abusu Phlebot. *pag.* 73.

Alex. Massaria Apolog. l. 11. disp. 11. c. 14.

A farther mistake it is in *him*, that he represents the *Galenists* as such *pittiful fellows*, that should not know but that *each corruption of the bloud* is *incorrigible*, and there-

therefore *let it out.* It is true, that we do hold, that it is *poſſible* for the *bloud* to be ſo vitiated, as to be *incorrigible*, and that one may aſſoon hope to ſee the *regreſs from a total privation*, as *it reſtored.* This hath been obſerved in *peſtilential diſeaſes* ſometimes, and in *ſphacelated parts*: and perhaps I may be allowed to reckon as ſuch, the *bloud* of that perſon in *Fernelius*, which was univerſally *coagulated in the veins*; ſo as to be taken out as 'twere *branches of coral*: And that *woman's* in the obſervations of *Pachequus*, whoſe *bloud in a continual fever did iſſue out*, upon *Phlebotomy*, as *cold as Ice*, *or Snow*: the like to which, in the *ſpotted fever* is taken notice of, as a fatal *prognoſtick* by *Petrus à Caſtro.* If *Tlempius* give me leave, I would reckon in *putrid fevers*, that *bloud* to be *incorrigibly depraved*, which doth not *coagulate*, and is deſtitute of its *fibres*, ſince *Fernelius* and others eſteem of *ſuch* as an evident teſtimony of the *higheſt putrefaction.* It is alſo true, that we do hold, that where diſeaſes are *ordinarily*, or *frequently curable*, yet by accident from the *idio-ſyncraſie* of the *patient*, or ſome other *intervening cauſe*, the *bloud* may be continued in ſuch a *vitiated eſtate*, as to be *incorrigibly corrupted*, and yet its *eſſential form* not loſt; as in caſe of *Cancers*, *Hypochondriacal* and *Scorbutical diſtempers*, *Scirrhoſities* of the *Liver*, *Spleen*, and *Meſentery*, *Leproſies*, *knotted Gout*, *calculous indiſpoſitions*, *&c.* I might mention other caſes, but *they relate* not to the *preſent controverſie*, and I have already ſaid enough to ſhew the *ignorance* of this *Baconiſt.* To come nearer to the main matter; It is true, that we do hold, that in many diſtempers, as in the *Scurvey*, *putrid Fever*, and ſome others, the *maſs of bloud* is ſo *putrified* and *corrupted*, that even that which is termed more ſtrictly Bloud, is *depraved* ſundry wayes: for, if the veſſels that *generate* and *convey the Chyle*, and the *Chyle* it ſelf be *corrupted*, 'tis impoſſible but that which is *produced* and *ſupplied* daily out of the *Chyle*, ſhould participate of *it pravity*, and ſo much the more in that they flow *intimately commixed* in the ſame *Arteries* and *Veins*: But that

Fernel. Phyſiolog. l. 6. c. 7.

River. obſ. communicatæ *à Pachequo*, obſ. 46.

Petr. à Caſtro, de febre malign. pag. 90.

Fernel. Therapent. Univ. l. 2. c. 17. *Sennert.* de febr. l. 2. c. 1.

that in *such cases* we hold the Blood to be so depraved, as to have lost its *formal essence* totally and *irrecoverably*, is most notoriously false: and any man may see hence, that this *Ignoramus* understands not the *Galenical* way, but *deserted it*, before he had acquainted himself *therewith*. We do hold that the *blood* and *associated* humours may come to a *partial putrefaction*, and yet be recovered *again*: and 'tis this recovery and *redintegration* that we design by *our practice*, and if we cannot effect it *totally*, yet that *we* aim at, is, to *concoct* the *several humours*, so that what there is of *them* that is *alimentary*, and *agreeable to nature*, may be mitified and retained, and the rest so digested, as that it may be with *ease* and *safety* ejected the body, and so the *Mass of blood* regain its former *lustre* and *amicableness*: This being the *grand intention* of the *received* Method of *Physick*, 'tis one thing to debate *whether* blood-letting, *practiced according to Art*, (for *we* are not otherwise concerned in the Quarrel) *be a suitable proper means to atchieve our purposes*? And another, to say, that we pierce poor mans skin, and rashly throw away the support of life, out of a vain apprehension, that it is totally corrupt, and depraved of its former being, and no wise capable of being retrograde. This cannot be said without an apparent *injury* unto *us*: We know the *variety* and *fallaciousness of colours*, and by our *rules*, can well *conjecture* how far the *Humours* are *vitiated*, what may be *concocted* in order to the *nutriment and benefit of nature*, and what *maturated* to a convenient *ejectment*; And we do utterly deny the consequence of this Argument, though *we* grant the *Assumption*: *Viz.*

This he might have learned from Galen, *in his Comment upon* Aphor. 17. l. 2.

If the blood be of such a nature that it may be recovered to its pristine colour and vigour, without Phlebotomy, then ought not men to use Phlebotomy.

But the Blood, like Mercury, may be polymorphised and changed into divers shapes, and at length be reduced to the same state and condition, as when it was in its primitive essence. Ergo.

The

The *Assumption* I can grant, but not where such a *practitioner* as *G. T.* is made use of. I doubt not but the *followers of Erasistratus* could effect it by their *Fastings, Frictions, Bathes,* and other remedies used by such *judicious men:* I grant, that *robust nature* doth daily produce such *rectifications of the bloud,* in many that make no use of a *Physician*: But as willing as I am to *gratifie* my *Adversary,* I should not yield thus much to *Helmont,* or such as practice with *Arcana,* and *commanding Medicaments.*

To the *sequele* of the *Major,* I reply, that albeit that *Nature may oftentimes do miracles, yet are not miracles to be presumed upon: It is possible for the sick to recover without any means, yet are means to be used; the omission thereof is imprudent, and criminal, but the use thereof* (if the Physician be *knowing* and discreet) *safe, and as secure as the condition of our mortality permits any thing to be: A few dayes or hours of the encreasing distemper will more impair the strength of the sick, than the loss of a* little blood, *which,* in the condition it is, *adds not to the vigour or nutriment of the diseased; the dammage will be easily repaired, and perhaps all* this *nicety will be to no purpose, for, after a multitude of vexatious* (*sometimes dangerous*) *symptomes, Nature may produce in the almost exhausted patient, a violent eruption of bloud, and thereby terminate that malady which might have been alleviated, or allayed before.* Fluxus sanguinis largi ex naribus solvunt multa, ut Heragoræ. Non agnoscebant medici. *The Bloud for which they are so sollicitous, Nature her self is not so careful to preserve it, but that frequently in the beginning and progress of diseases, she alleviates her self by discharging it out of the nose, and that in greater quantities of more florid blood than the Lancet would take away: This evacuation is of all the most facile, the most easie to be regulated by the Physician* (since he can stop it when he will) *and the most innocent in the beginning and increment of diseases.*

Hippocr. Epid. sect. 1. l. 2.

"San-

Fienus de ſignis medicis, *par.* 2. *c.* 1. *ſect.* 8. & *Franciſc. Rubeus* Nocturn. exercit. in Hiſtor. Medic. *exerc.* 6. *p.* 98, 99, 100.

"Sanguinis eruptiones & hæmorrhagiæ hanc habent
'prærogativam præ aliis evacuationibus, quod ipſæ etiam in principio & in aliis temporibus, etiamſi non
'adſint ſigna bonæ coctionis, poſſunt eſſe magis utiles,
'quam aliæ evacuationes, quæ fere ſemper ſunt malæ, ex
'eo quod ſanguis ſemper per apertas partes fluunt, &
'ſemper libere & commodum exire poſſit, nec eget præ-
'paratione & concoctione, ſicut alii humores, qui per
'alias evacuationes excerni debent. ——— In evacuati-
'one, quæ per venas apertas fit, nullam merito expecta-
Proſper Alpin. de præſag. vita & morte, *l.* 7. *c.* 2. 'mus concoctionem; & hinc Medici ſecta vena in mor-
'bis acutis in principio mittunt ſanguinem; hinc & ſpon-
'tinæ ſanguinis vacuationes bonæ erunt: Addatis, ſan-
'guinis eruptiones copioſas, nedum utiles fieri, propte-
'rea quod ſanguis malus una excernatur, ſed etiam quo-
'niam ejuſdem ſanguinis evacuatio univerſum corpus re-
'frigerat, caloremque tranſpirabilem, & corpus diffla-
'bile facit. Quare hac ratione excretiones ſanguinis op-
'timæ erunt, quæ in ſtatu apparent, plene cocto exiſten-
'te morbo, ſed neque ea, quæ cum cruditatis ſignis fiunt,
'erunt plane abhorrendæ & timidæ. ——— *In fine, that prudence which obligeth us to ſelf-preſervation, obligeth us to the moſt probable courſes in order thereunto: and what can ſeem more rational, than* that *which* NATURE *directs us unto,* that *whereby* ſhe *ſo happily mitigates and concludes diſeaſes,* that *which ſo many Ages have recommended unto us, and in the uſe whereof, not only* Greece *and* Rome, *but all Nations univerſally, as well* barbarous *as* Civil *are agreed on?*

And thus much ſhall ſuffice for an anſwer to his *firſt Argument*: I now proceed to the *ſecond.*

p. 52. "The *Blood* is the ſupport of *Life*; and we are taught
"by Divine Writ, that in the *Blood*, that *Spiritus rubens*
"is *Life.*

I anſwer, That the *Scripture*, in the places aimed at, cannot be underſtood *literally*, and *properly*: for then the words

words infer, that the *Beasts have no other soul than the blood*, Deut. 22. 23. *onely be sure that thou eat not the blood; for the blood is the soul, and thou mayest not eat the soul with the flesh.* Thus it runs in the *Original*, though our *Translation* renders it *Life*. And so *Levit.* 17, 10, 14. in which last place 'tis said, that *the blood is the soul of all flesh.* Nay, in *Genesis c. 9. v.* 5. Concerning man, 'tis said, *The blood of your souls will I require.* It remains, then, that deserting the *literal sense*, we fly to some that is *Analogical*: And hence it is that most *Divines* take the word ψυχη for *Life*. Thus *Exod.* 21. 23. *Thou shalt give life for life*, is not incongruously rendred instead of *Thou shalt give soul for soul.* Thus the *Civil Lawyers* frequently stile *Loss of Life* by the phrase of *Anima amissio.* But however these passages may be *popularly* current, yet in *Philosophy* and *Physick*, when we would speak *distinctly*, and argue *firmly*, 'tis not to be allowed of for *Truth*, that the Blood, or Spiritus rubeus, (as our *Helmontian* most non-sensically terms: for, as great a *Pyrotechnist* as he would seem, 'tis past *his Art* to demonstrate, that *it* is a *Spirit*, or *Chimically* to educe a *Spiritus rubens* out of it) is Life: for *Life* is nothing else but *the union of the soul with, and its presence in the body*: or, to declare it by its *effects*, 'tis the *conservation of all those faculties and actions which are proper to the animated creature*; as *Death* is the *extinction of them.* Out of which 'tis evident, that *Blood* is no more properly called *Life*, than 'tis possible for the *Definition* of *Life* to be acmodated to Blood: that is *not at all.* But since *common discourse* doth allow us often to fix the *principal denomination* upon the *chief instruments*; and that the *Scripture* explains it self, *Levit.* 17. 11. and what my *Adversary* in one place calls the *LIFE*, in another, he terms it, the principal support of Life: let us consider how far that is *true*: That the *Blood* is not so much as a *part of the body*, (but the *Aliment thereof*) is the assertion of most *Authors*; it is not *continuous to the rest of the body*, but *floateth as Liquor in a ves-*

Scaliger de subtil. exercit. 102. sect. 5. *Fernel.* Physiolog. l. 5. c. 16.

Vallesi. sacr. philos. c. 5. p. 102. *Fernel.* Physiolog. l. 2. c. 1.

veſſel: and in *vulgar ſpeech*, no man takes the *loſs of blond* for a *mutilation*, or *diſmembring*: and there are ſundry *diſtempers* and *phænomena*, which conclude in favour of the *ſpirits*, (or what is *Analagous* to them) and the *Nerves*, to aſſert their *pre-eminence* above the *Blood*, and its *Veſſels*: and whatever may be ſaid concerning *Generation*, (which is very diſputable) 'tis a certain miſtake in our *Helmontian*, to make the *Bloud* the *principal matter for* ſenſation (whereas *ſanguine perſons* are not the greateſt *wits*, and the *ſenſes* are moſt *quick* in *women* during their *lyings in*, after a great *effuſion of bloud*, as alſo in *dying perſons*) or motion, which is not in *paralytick members*, though the *Bloud* flow unto them continually, *as it was wont before*. I add, that there is not any *convincing Argument* to prove that the *Bloud* is *animated*: I confeſs the *conjunction of the ſoul and Body*, and *operations* conſequent thereunto, are moſt *myſterious* unto me: and I think it no leſs true that *our Life is a conſtant miracle*, then that we are at firſt *wonderfully framed*: nor can I determine what *particular uſe* the *ſoul* makes of all the *parts* and *ingredients* of our *humane bodies*: But *this* appears unto us *daily*, that the conjunction betwixt the Soul and Blood, and the dependance of our Life thereon, is not ſo *great*, or intimate, as that upon the *effuſion of a little*, no, nor of a *great deal of the bloud*, Death, or any debility, *extraordinary* and *durable*, ſhould enſue *unavoidably*: and if *it* happen but *ſometimes*, 'tis apparent *thereby*, that 'tis but *accidental*, and not a *proper* conſequence of *that effect*: 'Tis manifeſt, that the *operations* of the *Soul* are not reſtrained to *one determinate proportion of bloud in every body*: nor to the *ſame* in *any*: albeit that there ſeem requiſite in *all Animals*, that there be *ſome bloud*, or what is equipollent thereunto: 'Tis alſo manifeſt, that this *Bloud*, (for which ſome are ſo *ſollicitous*) doth continually *expend and waſte it ſelf in nutrition*, (and that even the *nouriſhed parts* are in a continual exhauſtion) ſo that without ſupply, it would *degenerate into*

Plempius fundam. medic. *l.* 2. *c.* 1.

Botallus de ſangu. miſſ. *c.* 34.

into choler, (except in those *miraculous fasts*) and diminish to *little* or *nothing*: as appears upon *great fastings*, and *several diseases*. 'Tis no less manifest, that upon *great evacuations of bloud*, by *wounds*, or *otherwise*, when the *Bloud* hath been so exhausted, that very little can be imagined to remain, yet in a *few dayes* the *veins* and *arteries* do fill again, and nature is so replenished and *vigorated*, that this *lost bloud* seems not only *as good*, in order to the *functions of life*, but *better*, in order to *health* and *strength*, since the production of *this last* (in the end of diseases) is accompanied with *convalescence*, whereas the *precedent* did not *hinder the indisposition*. *Id ibid.* c. 33. sect. 7, 8. & c. 35.

Out of what hath been said, the Answer to this Objection is *facile*: viz. *The Blood is not so the* seat *and residence of the Soul, nor so absolutely necessary to Life* (granting all that can be desired of us) *as that some of it may not be let out, without present danger, or irreparable detriment*: so that, *if the motives for* Phlebotomy *be cogent, or so probable, as to render the Action prudential, no difficulty can arise from this scruple.* It is written in *Deut.* 24. 6. *No man shall take the upper or nether milstone to pledge; for he taketh a man's life* [or soul] *to pledge*. Here the *milstone* is called the *life* or *soul of a man*, as much, and as *properly*, as ever the BLOOD is any where else: But, though there be a *prohibition* for a man to *deprive* his poor neighbour thereof, as of the *support of his Life*, yet undoubtedly none was ever *interdicted* by virtue of this precept, to help the distressed *Miller* to pick and dress his *Milstones*.

His third Argument is this.

"Moreover, one would think, it should put a stop to p. 7.
'their *prodigal, profuse bleeding*, if they did but consider,
'with what *difficulty* Nature brings this *Solar Liquor* to
'*perfection*, how many hazards of becoming *spurious* and
'*abortive*, it passes through; how easily it is stained by an
'*extraneous tincture*; how often intermixed with some-

'thing *allogeneous*, and *hoſtile* to it; how many elaborate 'circulations, *digeſtions*, and *refinings* it undergoes, before 'it be throughly *animated*, and made fit for the right *uſe* 'of the immortal Soul.

One would imagine by *this Objection*, that the *Generation of the Bloud*, were as *difficult* a work, and required as much of *ſollicitude*, as the *Philoſophers ſtone*; and that the *leaſt errour* would diſappoint the *proceſs*, and eject the *poor ſoul* out of its *tenement* and *manſion*. But there is not any ſuch thing; he that conſiders the perpetual ſupply of *Chyle*, by the *Ductus Thoracicus*, and with how much eaſe it is transformed a great part into *Blood*, by the *ſimilar* action of that which *pre-exiſted in the veins*, (together with the *concurring* aid of the *Heart*, and *ſanguiferous emunctory veſſels*; and the *previous* alterations in the *ſtomach* and *inteſtines*) will imagine neither the *production of Bloud*, nor the *reparation of it*, to be ſo *tedious* and hard a matter: Nor is it true, that the *Bloud* is ſo eaſily ſtained with *hoſtile tinctures*, ſince it is a *liquor* that is in *perpetual depuration*, and hath the convenience of ſo many *out-lets* to diſcharge it ſelf by. Neither will every *crudity*, in the *immature Chyle*, or *bloud*, render the *blood* unfit for the *uſe of the immortal ſoul*: there is *extraordinary*, and *unimaginable difference* betwixt the *bloud* of one perſon and another, (as appears upon *diſtillation*, *burning*, and *mixing it with other liquors*) yet are *all theſe* within the *latitude* of *Health*, and with *equal perfection*, exerciſe the operations of *Life*: Nor doth every *allogeneous mixture* vitiate or deprave the *bloud*; for the *Chyle*, *Bloud*, and *Fleſh*, retain *ſome particles* of the *original food* taken into the ſtomach: hence it is, that *ſheep* fed with *peaſe-ſtraw* (though as fat as others) yield a fleſh *differently taſted* from other *mutton*: the like is to be obſerved in the *feeding* of other *Animals* generally: Nor is this more evident in *other Animals*, than 'tis in *Men*; for, not to mention thoſe *Medicaments*, which, by the alteration

tion they make in the *Urine*, do demonstrate they have passed along, and been once mixed with the *bloud*; as *Cassia*, *Rhubarb*, *Annise-seeds*, *&c.* " *In fonticulis observa-* ' *vi, quod si præcedente die aliquis allium aut cepam come-* ' *derit, pus quod in fonticulo est odorem allii aut cepæ obtine-* ' *bat : sanguis autem qui per fonticulum expurgatur, non nisi* ' *per venas expurgari potest ; unde possumus dicere, quod* ' *sanguis acutum odorem detinere possit.* The like *phænomenon* is to be observed in *wounds* and *ulcers*, which feel *detriment*, according to the *various food* and *drink* of the patient. Nay, in *pleurisies*, and other *wounds*, it hath been taken notice of, that the *purulent* matter hath discharged it self by the *veins*, (re-mixing with the *bloud*) into the *intestines*, and by *urine*. The *Bloud* of some persons in *perfect health*, hath been observed to *stink* worse than *rotten eggs*, even as it was issuing from the *arm*, upon *Phlebotomy*; yet when it was *cold*, it did not *stink*, nor seemed to differ from the best *bloud*, except that it was of a more *beautiful red* than is usual. I conclude therefore, that in this Argument many *falsities* are contained, and there is nothing of such force, as to deterr a *prudent Physician*, who understands the *rules of his Art*, and those *cautions* which are suggested to us in *Phlebotomy*, to let his Patient *bloud*, and emit some of this *solar Liquor*.

Domin. de Marchettis, Anatom. c. 9.

Domin. de Marchettis; Anatom. c. 10. *Paræus* chirurg. *l.* 16. *c.* 49. *Simon Pauli* de febr. malignis sect. 11.

His fourth Argument.

" They should never attempt, yea rather abhorr, to ' enervate in the least, by the Lancet, the *strength*, with ' its *correlative* bloud and spirits, *without which there is* ' *no hopes of attaining a desired Cure.* For it is a most ' *established verity*, taught by *Hippocrates*, that *Naturæ* ' *sunt morborum medicatrices*, the most assured means of ' *sanation*, is to keep up the vital pillars, without which, ' all falls to ruine. So that *Van Helmont* is without con- ' troversie in the right, when he sayes, *utcunque rem ver-* ' *teris, ignorantiæ plenum est procurata debilitatu sanare* ' *velle.*

p. 89, 90.

'*velle.* i.e. make the best you can thereof, It savours of 'gross ignorance, to assay to heal, by bringing one into 'a weak condition. And p. 84. *de febr. Satis sit, satis 'sit Medico* (saith the same Author) *quod æger alioquin 'inexcusabili debilitate labascat, per morbum, medias, in-'appetentias, inquietudines, dolores, anxietates, vigilias, 'sudores, &c. neque idcirco fidus auxiliator debet debilita-'tem addere debilitatibus; fraudulentum est sublevamen 'quod venæ sectio affert; ejusque tam incertum est remedi-'um quod nemo medentum hactenus ausit polliceri sanationem 'inde futuram.* One would think it is enough, and too 'much, for the poor sick man to be brought low with the 'disease, fasting, want of appetite, restlesness, pains, an-'guish, watchings, sweatings; wherefore, in such a 'case, whosoever is a trusty supporter, ought in no wise 'to add weakness to weakness: all the succour the Lan-'cet can afford is deceitful, and all the address thereby 'is of such uncertainty, that no Physician dare venture 'to make a promise of a *perfect cure* by this means, and 'to keep one from a relapse.

I must except against the authority of *Van Helmont*, in the case, as of a person whose credit is sufficiently taken off, by what I have alledged elsewhere: I must not be concluded, but by the judgment of ([a]) *understanding practitioners*: and in *Physick*, I must not allow him to have been an *intelligent person*; and it is notorious, that he was a man of no practise, and consequently no *fitting judge* of the *efficacy* and *inefficacy* of *Medicaments*. It is a saying in the *Civil Law*, *plus valet umbra experti senis, quam eloquentia juvenis*: And those *Philosophers*, who would, upon certain *prejudicate opinions*, and *pretences* of *reason*, determine of *Medicinal cases*, are exploded even by *Galen*: nothing is firm in *Physick*, but what is confirmed by an *happy experience*: and 'tis an *imbecillity of judgment* (saith the great *Stagirite*) *to desert experience, and adhere to reason.* If *Helmont*

(a) οἱ γὰρ ἔμπειροι περὶ ἕκαστα κρίνουσιν ἠρθῶς τὰ ἔργα. καὶ δι' ὧν, ἢ πῶς ἐπιτελεῖται, συνίασιν, καὶ ποῖα ποίοις συνᾴδει. *Arist. Ethic. l.* 10. *c.* 9. *Jo. Franc. Ripa*, tract. de peste. c. 7. sect. 17. *Arist.* l. 8. Phys. c. 3. t. 22. & 1 *de* ort. & inter. c. 3. t. 59.

mont was neither converſant in the *Experiments of others*, nor did himſelf experiment the inconveniences of *Phlebotomy*, what doth his *Aſſertion* or *Negation* ſignifie in the caſe? Beſides, 'tis but a *ſingle* teſtimony againſt the *Experiments* of *judicious* men in all *Ages* and *Countries*. As for *his Reaſon*, 'tis moſt infirm. *We muſt not adde imbecillity to imbecillity*: even this is *notoriouſly falſe* in Phyſick; for, by the ſame reaſon, *we ſhould not reduce them to a ſlender diet*, no nor ſo much as *ſweat them*; for after *much ſweating*, *every man feels himſelf weaker for the preſent*; the ſame may be ſaid of *vomits* and *Emeto-cathurties* (ſo much commended by my Adverſary) that, *during their operation*, they add to the *imbecillity* and ſickneſs of the Patient: upon *this reaſon*, none might ſcarifie a Gangrene, cut of the ſphacelated part, or make uſe of ſeveral *vexatious operations* in *chirurgery*. Beſides, who would not allow us to create him a *little trouble* or *weakneſs*, (eaſie to be repaired) thereby to recover him from a *greater evil*? there are *ſome times* when the *leſſer of evils becomes eligible*, and puts on the qualification of being *Good*: there are ſome times when we are directed to *cure one diſtemper by introducing another*. But to proceed; I do deny that *Nature is debilitated by bleeding in diſeaſes*, if the rules of our Art be obſerved: for, we daily ſee, that after *bleeding*, Nature doth with more *eaſe* and *ſpeed* diſcharge her ſelf of the *diſeaſe*; and uſually thereupon enſues ſigns of *concoction in the urine*, a *pronity to ſweat*, and an *inclination to ſolubility of body*, and a *more ſtrong pulſe*: which, as they are our *daily obſervation*, ſo they do demonſtrate, that Nature is not weakned thereby. Heretofore it was uſual, after conſideration of all due circumſtances, to let the ſick bleed, even *till he ſwooned away*: and that with very *good ſucceſs*, in thoſe Fevers called συνοχοι. "*Sub quo caſu* Hippocrates *atque* 'Galenus *veniti non ſunt, donec animus deficeret, ſemel* 'detrahere *ſanguinem. Quam ipſi rem ratione & experien-* 'tia *ducti tentaverunt. Profuſa namque hac inanitione pri-*

Steph. Roderic. Caſtrenſ. quæ ex quib. *l.* 4. *c.* 7, 8.

Jodoc. Lommius de curand. febr. contin. *c.* 3.

'*mum*

With this opinion of J. Lommius, doth Citesius agree, c. de usu Phlebotom. c. 4.

'mum homo in contrarium agitur statum, celerrime ex de 'fectu animi refrigeratus: post autem alvus subinde pro- 'rumpit, vel bilis ubertim evenitur, vel certe copiosis su- 'doribus corpus perfunditur, atque hinc alios protinus con- 'tingit convalescere, alios plurimum juvari. This they practiced in the beginning of *such Fevers*, and the practice did so far ennoble *Galen*, that 'twas proverbially said of him, that *He stabbed Fevers*. He relates of himself, that he took away at once from a Patient *six pound of blood*, and presently put an end to the *Fever*, the party not finding *any diminution of his natural strength thereupon*. But this kind of *excessive Phlebotomy* hath been long discontinued by *Physicians*, not that they could absolutely condemn it, but out of *cautiousness*, lest the *ill success* afterwards should be imputed unto *them*: yet some *Countrey-surgeons* do still continue it. I knew one in *Warwickshire*, who would, in the beginning of any *Fever*, bleed the Patient thirty or forty ounces, or more, in case he did not faint: and, really, with *great success* in *rustick bodies*. A Captain in the *Parliament-Army* assured me, that when the *spotted fever* was in the Camp, their Chirurgeon did, in the beginning of the distemper, *bleed* them till they fainted; then put them to bed, giving them a *good Cordial*, so they *sweat*, and recovered presently. He himself was served so; the *Chirurgeon* bled him in the open field, the *bloud* fell on the ground, to the quantity (as he guessed) of a *quart*, when a *Lipothimy* approached, he put him to bed, and giving him a *Cordial*, he fell into a *sweat*, and was recovered perfectly in *very few dayes*. There is no doubt but the *practice* was *justifiable* in men of a *convenient habit of body* to bear it, and where neither the *climate*, (which [a] oftentimes is *particularly* repugnant to large *Phlebotomy*) nor *idiosyncrasie*, (which [b] sometimes happens) or *evil diet* preceeding, or the *particular malignity of the venenate disease*, nor the *prejudicate opinion* of the *people* do contraindicate. It hath authority from *Hippocrates*, *Galen*, *Avicenna*,

Galen. de sang. miss. c. 14.

a Citesius *de usu Phlebotom.* c. 5. Rolfinc. *meth. medic. spec.* c. 4. sect. 2. c. 11.

b Rolfinc. *ubi supra.*

cenna, and many others: *Nature* doth ſeem to *direct us thereunto*, by her own *exceſſive evacuations* in that kind, by which diſeaſes are *frequently* acted: and no *evacuation* is to be accounted *immoderate*, which is *beneficial*. By this, and *expurgation*, even to *Lipothymy*, in the firſt beginning of *ſeveral diſeaſes*, men were cured preſently, nor did the maladies proceed to thoſe *times* which in the *uſual method* they make their *progreſs* through. In my *Exercitations* againſt Dr. *Sydenham* (as yet *unfiniſhed*) I have entreated largely of the *ſeveral methods of curing*, which I ſhall not now *tranſcribe*. As for that way of *bleeding* which is *now* generally in uſe (though practiſed with a *great latitude* in *ſeveral Countries*, and by *ſeveral Phyſicians* in the *ſame Countrey*) it is moſt manifeſt that if *due circumſtances* be regarded, and all other *medicaments* dexterouſly adminiſtred, it is ſo far from *debilitating Nature*, that it adds to its *ſtrength*, mitigateth the *preſent ſymptomes*, prevents the *violence of the future*, and *concocteth the diſeaſe* apparently. I will not undertake to juſtifie the *demeanour* of each *particular Phyſician*, any more than I will anſwer for their *intellectuals* and *skill in Phyſick*: It is not the reading of *Sennertus* and *Riverius*, with a little *knowledge* of the new diſcoveries in *Anatomy*, and a few *Canting terms* about *Fermentation*, *texture of bodies*, or ſuch like *knick-knacks* and *Conundrums* of the *novel Philoſophers* which accompliſh a man for **practice**: Theſe men will never come to be ranked with *Valleſius*, *Mercatus*, *Fernelius*, *Duretus*, *Rondeletius*, *Maſſarius*, *Septalius*, *Claudinus*, *Crato*, or *Rulandus*. If *Experience* be our *Guide*, let us inform our ſelves by the *Hiſtories* of ſuch as *they* have given us of *Epidemical* and *peſtilential diſeaſes*, and of *particular caſes*, as alſo the *cures*, and following *them* let us come to *practiſe*, and, not deſerting our *own reaſon*, let us be *cautioned* by *them*: Theſe others for want of *judgment* to conſider *each circum-*

Dilect. Luſitan. de venæ ſectione cap. 14. Artic. 1.

G. Fletcher's History of Ruſſia, c. 28. p. 279.

ſtance cannot make an *Experiment*, or *relate it*: whileſt they extenuate the credit of the *ancient* and *modern Phyſicians* that are not *Innovators*, (though more *obſerving* and *experimental* than themſelves) they do it only to *excuſe their ignorance* in that kind of *Learning*, and whatever they have of the *Lord Bacon*, they have this of the *Ruſſe* in them, that *they neither believe any thing that another man ſpeaketh, nor ſpeak any thing themſelves worthy to be believed.* For ſuch as *theſe*, or any elſe that do not practiſe *Phlebotomy* according to the *rules of Art*, I cannot make any *Apology*: nor do I think that *their errours* ought to extend ſo far as to diſparage *all Phyſicians* who demean themſelves *prudently* and *diſcretely*: Notwithſtanding *all our care*, ſome *Patients* will *dye*; no *Phyſician* can ſecure all men from what their *frail condition* hath ſubjected them unto: If our *Method* and *Medicaments* be ſuch as the *general rules of Medicine*, and an *Experience* generally *happy* do warrant, 'tis as much as can be expected from *us*; and the *Imperial Laws* allow of this *defence*, though they *puniſh* the *immethodical* and *novel* Experimentators, and the Ignorant. *Sicut Medico imputari eventus mortalitatis non debet, ita quod per imperitiam commiſit, imputari ei debet: pretextu enim humanæ fragilitatis delictum decipientis in periculo hominis innoxium eſſe non debet.*

P. Zacchias Qu. Medico-legal: l. 9. conſil. 40.

Vide I. Franc. Ripia tract. de peſte, c. 7. §. 64, 65, 78, 104.

To conclude this Argument, I ſay, that although it often happens that diſeaſes are cured by ſole Phlebotomy: *Evenit ut ſæpius miſſio ſanguinis ſola curationem perficiat——Miſſo ſanguine ſæpe ſponte naturæ expurgatur corpus alui profluvio, vomitu, aut ſudore ſuccedente*——Yet no *wiſe Artiſt* will rely upon *that alone*, but with the addition of *other auxiliary medicaments*: Herein *Spain* and *France* are pretty well agreed: And as no *wiſe man* will undertake to cure by bleeding *alone*; ſo it is moſt *fooliſhly* done of our *Helmontian* to *demand*, or *expect* it, as *he* doth here.

Valles. Meth. Med. l. 2. c. 3.

Vide Riolan. de circulat. Sanguin. c. xxx Vallis. meth. medend. l. 4. c. 2.

I come now to his fifth Argument.

" The means to let out *bad blood* without re- Pag. 105, 106.
' moving the *efficient* cauſe thereof, is no *direct method*
' of healing.

' Now *Phlebotomy* lets out *bad blood* without re-
' moving the *efficient* cauſe thereof. *Ergo*, Phlebotomy is no *direct Method* of healing.

' The *Major* is proved thus: Whatſoever ſuffers
' the cauſe to remain, can never remove the effect:
' For *manente cauſa manet effectus*.

' Now *Phlebotomy* ſuffers the *cauſe* to remain, *Ergo*,
' it can never remove the *effect*.

' The *Minor* is made good by *frequent experience*:
' If the *cauſe* of bad blood were *cut off*, the *Feaver* or *ſcorbute* depending (according to Dr. *Willis*) upon
' the degeneration, *Sal* and *Sulph.* therein, would
' quickly ceaſe: but we plainly ſee the contrary; for
' after the veins are much depleted, the diſeaſe be-
' comes more truculent, and oftentimes mortal; which
' *could never be* if this depraved blood were any other
' than a product or an effect of an eſſential morbifick
' cauſe. The ſame agent which in ſanity ſanguifies
' regularly without any conſiderable defection, in ſick-
' neſs becomes exorbitant, ſending out a vitious juyce
' into all parts: be it *good* or *bad*, it ſtill ſprings from
' a *root*, which continually feeds the branches: ſo that
' it cannot be other than great *folly* and *wrong to the*
' *Patient*, to let out that *juyce*, though it ſeem never
' ſo *corrupt*, when another of the *like condition* muſt
' needs enter into its place, derived from the *ſhop* the
' *dunmvirate*, where it firſt receives a previous rudi-
' ment, which ought in all reaſon rather to be reform-
' ed, than to give vent to thoſe eaſily *evanid* particles
' *inſeparably* joyned with this *ruddy liquor*, how ill ſo-
' ever repreſented. If all contained in the *reins*

He ſhould rather have regarded the *ſecond* then *ſixth* digeſtion.

'(ſuppoſed to be *corrupt*) were diſcharged, yet as 'long as the *ferments* principally of the *firſt* and *ſixth* 'digeſtion deviate from their right ſcope, there would 'in a ſhort ſpace be a ſuccedaneous repletion of a mat-'ter equally contemptible, yea *worſe*, in reſpect of an 'enervation of *ſtrength*, than before.

This *Argument*, though our *Helmontian* rely ſo much upon it, is a pure *Paralogiſme*.

Firſt, *He* ſuppoſeth that **we** uſe *Phlebotomy* in **all** diſeaſes, **as a direct method of healing**: which is not *true*, except in *ſome maladies*, as *Apoplexies*, *Squinancies*, *Hæmorraghies* or *great eruptions of blood*, ſome *Atrophies*, and ſometimes in *Feavers*: in which 'tis *frequent* with *us*, to rely *ſolely* or *principally* upon *Phlebotomy*: yet even *here* we would think it very improper to admit of *our Phlebotomy* to be ſtiled our **direct Method of curing**, becauſe it is but a **part of our Method**, which will include, if not *ſome other preſcriptions*, yet at leaſt **byet**. In many caſes *we* uſe *Phlebotomy* as one *part* of our *Method*, but not as the *principal*: as when we uſe it *antecedently* to other remedies *Pharmaceutical* and *dietetical*, to *prepare way for*, or *facilitate* their *happy operation*. I am not *now* to write *Inſtitutions in Phyſick* for the documentiſing of this Diſciple of my Lord *Bacon*, 'tis enough that he may learn any where almoſt (as in *Valleſius*, *Mercatus*, *Claudinus*, and *Plempius*) that we propoſe more than *one ſcope* to our ſelves in *Blood-letting*; neither is it ever (except in diſeaſes ariſing from a *partial* or *total Plethora*) our *direct method of healing*: If it be but a *part* and *neceſſary* or *uſeful part* thereof, we are ſufficiently *juſtified*. Thus his *Major* is enervated: for if he would have oppoſed the *modern practiſe*, he ought to have urged it thus.

'' The means uſed to let out *bad blood* without 'removing the *efficient cauſe* thereof, is no *direct* Me-'thod

thod of healing, **nor an useful or necessary part thereof.**

This is manifestly *false*, as I shall shew anon. As to his *Minor*, That *Phlebotomy lets out bad bloud without removing the efficient cause thereof.* This would the *Ancients* deny, who *bled* their Patients in many cases until they *swooned* or *fainted*, with great *success:* and we must say it is not *absolutely true*, there being no *Practitioner* (I believe) but hath seen *some cases* in which *sole Phlebotomy* hath effected the *cure:* he may see many Instances of *this* in *Botallus*, and that in diseases where the *body* was undoubtedly *cacochymical*: I have seen *Agues tertian* and *anomalous* perfectly cured with *once bleeding* in women with child: and in *children* I have seen some *Atrophies* so cured, that the *principal* cause of their *recovery* was to be attributed to their *Bleeding:* the like I have observed in several *Chronical* diseases, even in *inveterate quartanes*: as also *others* have done: nor is there any thing more common almost in our *Cases*, than the relation of *several diseases* absolutely cured by *single Phlebotomy*; which I shall not transcribe here, but in my large discourse of *Phlebotomy* (in *Latine*) I intend to represent all *such cases* at large, with *their circumstances*, and the History of *Phlebotomy* with all that *variety of success*, which *judicious* Practitioners relate of it in *several diseases*, and *persons*. I add now, that **No man can be an accomplished practitioner who is not versed in the History of Diseases, and particular cures:** for the *general rules* and *directions* make no more a *Physician*, than *such* a knowledge in *Law* would do a *Lawyer*; the *res judicatæ* import more with *us* than they do in *Law-cases*; and as *Reports of the Judges* in special cases must be known by a compleat *Lawyer*, so must our *Book-cases* be our *presidents*, and regulate our practise. *Duobus enim tanquam cruribus innititur Medicina, neque solis theoreticis rationibus contenta, insuper*

Bruno Seidelius de morbis incurabil. p. 57.

superetiam practicus experientias particularium requirit, & indefessam ad singulos casus intentionem.

Thus is his *Minor* false, as was his other Proposition: and it should have run thus. **But Phlebotomy lets out the bad blood without removing the efficient cause thereof, or conducing thereunto.**

But he proceeds to defend the *Minor* thus. *If the Cause of bad blood were removed, then would the effect cease: but oftentimes we see that notwithstanding such a depletion the disease continues, and if it be not mortal, yet it becomes more truculent.* Here he commits the *same errour* that before, *expecting a greater effect from Phlebotomy than we propose generally to our selves in it*: we do it sometimes for *revulsion* of the matter flowing to any part, as in some *Pleurisies*, *Squinancies*, the *Colick*, *Bilious*, and Rheumatisms, *&c.* wherein we never rely *solely* upon *bleeding*, and though oftentimes the *effect* transcend our expectation, yet do we not *presume upon it*. Sometimes we *let blood* for *prevention* of future diseases, as in *great contusions* and *wounds*: Sometimes we *let blood* only to prepare way for *future Pharmacy*, "*Ita plerumque in febribus mittitur sanguis, qui non superat naturalem mensuram, neque simpliciter, neque in hoc homine, sed quia nisi mittatur, ob febrilem calorem, qui adest, & succorum putrescentium mistionem, corrumperetur, ac fortasse malignè; & cutis rarefactioni, & ventilationi, & vasorum relaxationi ad futuram expurgationem necessariæ, impedimento esset. Itaque mittitur, non quia multa subest copia, sed quia ea quæ subest, tunc est inutilis, & noxia, ac proinde, facultate ferente deponenda, etsi causa morbi non inclinet ad ideam sanguinis, modo non ab ea plurimum evariet*, i. e. Thus in feavers we usually let blood, not that the *blood* abounds above its *due proportion*, either in general, or in reference to this or that individual; but because the *blood* which flows in the veins is *infected* with a *feavourish* heat,

Vallet. meth. medend. l. 2. c. 3.

heat, and would be corrupted *thereupon*, and by reason of the *intermixed humours* now inclined to *putrefaction*, and that perhaps joyned with *maligniry*, for the prevention thereof, and least that *plenitude* and *depravation* of the Blood should hinder that *transpiration* in the habit of the body, *ventilation* of the blood, and *laxity* in the vessels, which is *requisite* for the *subsequent purge*, do we use Phlebotomy: not imagining that there is any *superfluous abundance* of blood, but that there is then in the body *some* that may well be *spared*, and which, *if the Patient hath strength to bear it*, may with *prudence* be let out to prevent so great dangers as are *imminent*, and to secure unto us the *good effect* of the subsequent *Physick*. And if the *disease* do sometimes encrease upon *Phlebotomy*, it behoveth *wise persons* to distinguish whether those *symptomes* happen *by reason of bleeding*, or only *succeed it* in course, the disease being in its *increment*: for this makes a *great difference* in the case: as also whether amidst those *symptomes* (which are *in due course* most violent in the *progress* and *state* of the disease; whereas *we* bleed *usually* in the *beginning* only) there be not some that yield signs of *concoction* and *melioration*, which if they do, as we may justly attribute those *hopeful* consequences in part to *Phlebotomy*, so we need not be amazed at the *present truculency* of the disease; which affrights none but the *ignorant*: If notwithstanding all our care, and *due administration of Medicaments according to Art*, the Patient do dye, yet is neither *Phlebotomy* nor the other Physick to be blamed, but we ought rather to reflect upon *Physick*, that 'tis a *conjectural skill* in the most knowing men, and that we are not as *Gods* to inspect into the *bowels* and secret causes of diseases, that besides the *special judgment of God* upon *particular persons*, all diseases are not curable in *all individuals*, either by reason of the variety of distempers complicated, which interfere with and

contra-

contra-indicate one to the other, or for ſome *unknown idioſyncraſy*, or other *intervening cauſe* which defeats *our Methods*, as well as it diſappoints the Arcanum of *Pepper-drops*. I muſt here take an occaſion to remind this *Helmontian*, that *he* doth ill to diſparage *Phlebotomy*, by reaſon that after *it* there may follow ſome *truculent Symptomes*, and yet to reject that *imputation* where his *Dietetical* rules are in diſpute. " When *he* ' gives his *vinous* and *ſpirituous liquors in Feavers* (a practiſe not peculiar to the *Helmontians*, but allowed, with regard to due circumſtances, by *Hippocrates* not only in *diaries* but *acute-feavers*: ſo *Galen* would have told this *Ignoramus*) ' if any *ſeemingly frightful* ' Symptomes appear, as *extraordinary heat*, an *inquietude*, a *little raving*, a *ſwerving from right reaſon*, the ' Patient muſt not be ſtartled in a *vulgar manner*, but ' be ſatisfied that theſe are but the effects or fruits of ' an Hermetick motion in the Spirits excited and increaſed by good liquors, eaſily united with them for ' the routing and putting to flight every way whatſoever doth diſturb its vital government.— Though *Hippocrates* ſay *it is good in all diſeaſes, that the Patient retain his ſenſes*; though he reckon *inquietude* and *reſtleſsneſs* in the ſick amongſt *evil ſigns*, yet our *Helmontian* diſſents from *him* whatever *time of the diſeaſe* it be, and whatſoever other circumſtances attend thereon: " *For oftentimes madneſs, deviation from* ' *the right underſtanding, a Lethargical or ſleepy diſpo-* ' *ſition ſuddenly break forth.* Nihil eſt quod tam ' magnifice prodeſt quod non aliquo ex modo obeſt. ' *What matters it, if the heat be magnified (beſides the* ' *main purpoſe) to ſome ſmall trouble, if ten times* ' *greater benefit accrue to the ſick. It is impoſſible any* ' *Phyſician ſhould perform his duty as he ought, if he* ' *boggle at the foppery of heat and cold, meerly momenta-* ' *ny and tranſient, often deluding our ſenſes.* Surely *he* that is thus negligent of the *Animal faculty* in its *principal*

P. 168, 169: *Valles.* in *Hippocr.* de victu in morb. anot. l. 3.

P. 169.

principal operations, may bear with a pitiful *Galeniſt* for not regarding much the *loco-motive ſtrength*, whilſt he is as ſollicitous as any *Helmontian* to ſupport the *vitals*: and let any one judge which is moſt likely to impair the *vital faculty*, a little *blood-letting* duly adminiſtred, or ſuch an increaſe of the *feavouriſh heat*, *reſtleſsneſs*, *deliriums*, *phrenſies*, *lethargies*, as our *Author* here deſpiſeth.

I muſt not yet diſmiſs him: not that I intend to laugh at his *ſix-fold digeſtion* (he might as well make a *doſen of digeſtions*) but it is neceſſary that I tell him that the *production of good* or *evil blood* doth alwayes depend upon *one root that feeds the branches*: for 'tis poſſible that the *ſtomack*, and *pancreatick*, or *bilious* mixtures in the *guts* may not be *faultleſs*, and yet the *blood* of the Patient either not *vitiated*, the errors of the *firſt concoction* being amended by the *primigenial ſanguifying Blood* (for 'tis the *Blood in the veſſels* which *principally* ſanguifies) or if it be *depraved*, yet not ſo as to generate any diſeaſe, or *abbreviate the life*: for *cacochymical* perſons with a little can live more long, and more free from diſeaſes than thoſe of a *purer* and *more generous blood*: Nor is it leſs *true* that oftentimes it happens that the *blood* is infected with *recrementitious*, *heterogeneous* and *noxious* mixtures from obſtruction of the pores, or other *occaſional cauſes*, wherein the *ſtomach* and *vitals* (otherwiſe *ſound* and *vegete*) are only oppreſſed and diſtempered *by accident*, ſome of thoſe *impure humours* being diſcharged upon *them*: and in *theſe caſes repeated Phlebotomy* alone may *cure*: If the credit of *Botallus* will not ſatisfie *him* herein, let *him* believe his beloved *Hippocrates*, a man who did *extraordinarily* practiſe *blood-letting*, ſo as that the *French* do impatroniſe him to their *Phlebotomy*; he tells us this ſtory. "*A certain man* 'amongſt the *Oeniada* was ſick when he was faſting, he 'felt as it were a great ſuction in his ſtomach, and a vio- 'lent

Ballonius Epidem. & ephemerid. l. 1. p. 101.

Vide *Riolan.* de circulat. ſang. c. xx.

Hippocrat. Epidem. l. 5. c. 11. 6.

'*lent pain: and after he had eaten any meat, as it di-*
'*gested, his pains returned, He grew very tabid, and wast-*
'*ed away in his body; his food yielding him no suste-*
'*nance, but what he took came away in ill-concocted*
'*and adust stools. But when he had newly taken any su-*
'*stenance, at that instant he felt none of that vexatious*
'*pain and suction: He took for it all manner of Phy-*
'*sick, both emeretics and cathartics; but without any*
'*alleviation. But being let blood alternately in each arm*
'(or hand) *till he had none left in his body* [that was
'vitious] *he amended upon it, and was perfectly cured.*—
Read but that case you that are so *timorous*, with the Comment of *Van der Linden* in his *Selecta Medica* c.xiii. and tell me if upon *Phlebotomy as ill blood alwayes succeed as is let out.* I could add more *parallel stories*: But to demonstrate unto this *Pyrotechnist* that *single Phlebotomy* will amend and inrich the mass of *Blood*, I propose this case, *An ancient Gentlewoman of a very strong and corpulent habit of body, but frequently troubled with hysterical and hypochondriacal vapours, was taken with a violent catarrh upon her stomach, together with great pains in her right and left hypochondria, as if the liver and spleen had been tumified: sometimes she complained of an insupportable acidity in her stomach, and sometimes a saline humour molested her: Sometimes she fell into cold clammy sweats, sometimes her sweats were so hot that she complained as if her skin were burnt: and even when her stomach felt any alleviation, she complained of a burning fire as it were in her bowels near and in the region of her liver: a perpetual sputation did follow her. I being sent for, after several Medicaments prescribed methodically, but with little or no alleviation, I proposed earnestly that she should be let blood, notwithstanding she were above sixty years old: I took away eight ounces or more: She found immediate alleviation: there seeming no default in the blood or serum, I burned the blood in an arched fire, it came to ignition, but flamed*

Φλεβοτομούμενος δὲ ἐν μέρει ἑκατέκην τὴν χεῖρα ἕως ἔξαιρος ἐγένετο, ἔπειτα ὠφελήθη, καὶ ἀπηλλάγη τοῦ κακοῦ.

See *Anton. Benivenius* his medicinal observat. c. 44.

not

not at all: but crackled like Bay-ſalt, and after ſome while a ſudden eruption of ventoſity made ſuch a noiſe as equalled the cracking of a Cheſnut in the fire: She took a ſtomack-powder of Ivory, Pearl, Crabs-eyes, &c. and was pretty well for three or four dayes, but upon a ſmall fright relapſed: I bled her again as before, and in that ſhort time (in which ſhe had taken very little ſuſtenance; but behold this blood (which looked no better than the other) did burn with a vivid and laſting flame as well as any I ever tryed in my life, and without any ſign of flatulency: She recovered preſently after with ſome further Medicaments, but not ſo as to be perfectly well at ſtomach of a long time. I doubt not but if others would try that way of *burning blood*, they would ſoon be convinced that *Phlebotomy* makes a great alteration therein.

But I proceed to his other Argument.

This is taken out of *Van Helmont*, whoſe *Latine* words I ſhall not tranſcribe now, but only the *Engliſh*. p.107,108.

"Let them make it appear if this do not imply a "contradiction, that a *Feaver* hath the property to *pol-* "*lute the blood*, and that this *property* can be taken away "*a poſteriori*, by a poſterous manner, to wit, by *with-* "*drawing what is putrified.* For if firſt the *fouler blood* "be let out, they open a vein *again*: all this while they "overthrow and confound the *ſtrength*, and ſo there- "by wholly diſappoint a *Criſis*. But ſuppoſe ſome- "times a freſh *ruddy blood* run out, they preſently cry "as cock-ſure, that a whole troop of diſeaſes is cut off "at the firſt daſh, as if the *reſting place* of the Feaver "did only extend from the heart to the bending of "the arm, and the good blood did take up its abode "about the liver.

This Argument proceeds upon a moſt *groſs falſhood* in that part of it, where *we* are ſuppoſed to place ſuch a value upon the *colour of the blood* as by the *goodneſs* or *ruddineſs* **thereof** we ſhould eſteem our ſelves as **cock-ſure** *that a whole troop of diſeaſes is cut off at the firſt daſh*: whereas no intelligent *Phyſician* ever thought ſo: for *we* do ſay that the *blood of all men is not alike*, neither as to *colour* nor *conſiſtence* naturally: and therefore in diſeaſes we do not expect to ſee *ſuch*, nor intend to make any *alteration* to ſuch a degree as tranſcends the *natural eſtate* of the body: for 'tis our buſineſs to preſerve each man his *natural habit*, be it *bilious*, *melancholy*, or *phlegmatick*. We do alſo ſay that in diſeaſes the *blood* may be corrupted in its *ſubſtance* and vitiated, and yet the *colour amended*, or not *altered*. *Sæpe ad ſpeciem & viſum purus eſt ſanguis, qui alioqui τῇ ὅλῃ ἰσίᾳ malus eſt: ut contra impurus cernitur ſpecie, qui non ita τῇ ὅλῃ ἰσίᾳ malus eſt.*——

Ballonius Epidem. l. 2. p. 191

Fallonius Epidem. l. 2. p. 192

And *Jacob. Thevart* his *Scholiaſt* doth obſerve, that ſeveral times *in* ὑπερχρόοις *ſanguis laudabilis ipſa ſectione apparet, & qualitatibus alienis præditus eſt, eſt enim acriuſculus & biliuſus nimis.* Nay we are ſo far *indefinitely* from pronouncing a *cure* upon the *ruddy colour* of the *blood*, that in malignant Feavers we make a quite *contrary* prognoſtick. *Peſſimum ſignum eſt* [in febre maligna puncticulari] *& timoris plenum, cum ſanguis vena ſciſſa extrahitur, ſi purus, rubicundus, & inculpatus educatur, venenoſitatem ſuperare indicium eſt, aut putredinem in penitioribus cordis latitare. In meipſo olim obſervarem; nam ter per hanc febrem miſſo ſanguine, nulla prorſus nota putredinis apparebat, aliis ſignis immani ferocitate ſævientibus.* The ſame is aſſerted and illuſtrated by *fatal inſtances* in *Simon Pauli*, which it would be too long to tranſcribe here. Having demonſtrated unto *him* theſe errors, I ſay further that *we* do not hold the *blood* to be *putrified* in all *Feavers*, as in *Diaries*, nor (many of us) in *intermittent*:

Ballon. Epid. l. 2. p. 167.

Petrus a Caſtro de febre malig. puncticul. p 90.

Simon Pauli digreſſ. de febr. malign. §. 12, 14.

tent: not to mention others: and in those *Feavers* wherein 'tis said the *Blood doth putrifie*, **We** do let *blood* often to *prevent putrefaction*, and not alwayes *to cure it* by *Phlebotomy*: and we do it in order to *cure the putrefaction*, we do not pretend to emit all the *putrified blood* thereby, but only to *alleviate nature of a part thereof*, that so *she may better overcome the rest*; especially being assisted by other *Medicaments*. So that the whole assertion is false, if it import that *any intelligent Physician designs to cure a putrid Feaver* **solely** *and* **directly** by *letting out the putrid blood by repeated venæ section*. I will not deny but some in *France* and *Spain* have *gone about to do it*, but the practise is *generally* condemned by *Physicians* of the *best repute*, and therefore ought no more to be charged on *us*, especially in *England*, then the miscarriages of any *bold Experimentor*, or *Baconical practitioner* at *London* upon the *Colledge of Physicians*. This insolent Disciple of my Lord *Bacon* understands not the *rudiments* of our *Physick*, nor knows what we aim at in the use of *Phlebotomy*, there being *sundry occasions* why *we* use it, and *sundry effects* that we expect *from it*. Neither is he less deceived in saying that *Phlebotomy* (duly administred) *overthrows the strength of the Patient* (I mean that *strength* which is necessary to the *concoction* of the *disease*) *and so thereby wholly disappoints the Crisis*. For it is manifest that by those *profuse Phlebotomies* of the *Ancients* the *Crises* were accelerated: and in ours *promoted*. This is not only manifest out of *Hippocrates* and *Galen*, but confirmed unto us by the *certain experience* of *Forrestus*, and those learned *Florentine Physicians* who composed the *Academy* there for the renewing of the *Hippocratical* and *Galenical* Method in opposition to the most prevalent **Avicennists**. "*Nos igitur Galeno sisti* (*quoniam sic con-*
"*ducit magis, dum vires ferant*) *sanguinem misimus*
"*plurimum, nam bilibre pondus & trilibre in acutis*
febribus:

Valles. meth. medend. l. 4. c. 2 *Castellus* de abusu venæsection. p. 60.

Forrest. de febre l. 12. in Scholio.

Novæ Acad. *Florentinæ* opuscula adv. *Avicen.* p. 43, & p. 55.

c *febribus: aut magnis aliis morbis ſuperavimus: atque*
c *id non modo impune, ſed & tanta ægrorum tolerantia,*
c *ut nil ſupra eligi potuerit.* —— "*Quam rem abun-*
c *de nobiſcum experientia noſti (ut nos quoque aliquan-*
Ibid. p. 99. c *tisper experientiam oſtentemus) ut qui præter cætera,*
c *quorum Paulo ante mentio fuit, & veræ quoque ſectione*
c *abunde uſi ſumus, atque id citra diſcrimen: quin et*
c *exactam illam vivendi formulam, veteribus quidem fa-*
c *miliorem, neotericis vero ne nomine quidem ipſo notam,*
c *inſtituimus. Quo factum eſt, ut jam criſes multæ ap-*
c *pareant, ac velut novus naturæ ordo, ægris fæliciſſime*
c *faveat: Cum antehac vel pharmacis agitata, vel intem-*
c *peſtivo victu impedita, nullas oſtenderet, aut admodum*
c *raras, eaſque non niſi in ruſticis atque infima plebe, qui*
c *nec pharmacorum multitudine, neque ciborum aut potio-*
c *num, fatigari, aut impediri quirent.* I have more willingly cited *this paſſage* becauſe the *renown* of that *Academy* was ſuch that it gave a *check* to the *grandieur* and *prevalence* of the *Arabian Method*, and the *truth* of what *they* ſay cannot be queſtioned by any that knows the *perſons*, and the *revolution* they brought about in *Europe:* and *hence* we may learn the reaſon of that difference which ſeems *frequently* to occur betwixt the *ancient diſeaſes* and *their critical motions* and *terminations*, and what we generally find: It ariſeth not from any ſuch *great change* in the *nature* and *types* of *maladies*, as ſome have *ignorantly* writ of late: nor as this *Bacon-face* talks, becauſe *we* reiterate moderate *Phlebotomy:* but becauſe we do not follow *at all* the *Method* of *Hippocrates* and *Galen* in the *curing* of diſeaſes: However we paſs for *Galeniſts* and *Hippocratical Phyſicians*, yet in truth *we are not ſuch:* our *practiſe* is made up *moſt* out of the *Arabian Method*, and *Medicaments*, and is a mixture of the *Grecian* and *Sarracenical Phyſick*, together with thoſe *acceſſionals* which improved *Chymiſtry* hath introduced: and ſince we *diſturb Nature* with our *vomits* and *minoratives* in the beginning,

P. Caſtellus de abuſu Phlebotom. p 6, 7.

beginning, and neither *bleed*, *dyet* or otherwiſe Phyſick our Patients according to the *ancient preſcriptions*, do *we* wonder to ſee another *face* and *iſſue* of *maladies* than was *heretofore*? Or, doth not he rather deſerve to be wonder'd at, that ſhould expect in ſo *different circumſtances* for *reſembling effects*? I believe our *Helmontian* with his *Emeto-cathartis*, and *exquiſite Arcana* (ſo far tranſcending all the *ſhop-medicaments*, or received *Chymical* preparations) doth ſee as *few Criſes* as any *Phlebotomiſt*: and may not I then retort upon *him*, that **he by his practiſe wholly diſappoints a Criſis**? Nay, doth not he tell us, that in *his way*? **there will be no need to ſtand gaping for a criſis,** p. 101. **ſith that may be anticipated, and all ſecured before that time, if there be a regular proceſſion:** And may not the preſent *Galeniſts* juſtifie themſelves in the *ſame manner*, ſince they can better warrant their *proceſs* and *Medicaments*; by a longer *ſucceſſion of Experiments* happily made by *judicious* men, then this ignorant *Helmontian* Innovator?

Another Argument of his is this.

'' If it be ſo that *ſtriking a vein* often in a long *te-*
' *dious diſeaſe*, is a preparatory for a *ſharp Feaver*, as p. 110.
' Doctor *Willis* and I both herein jump right in our
' obſervation: then am I certain that *Phlebotomy* re-
' peated in an *acute ſickneſs*, is a door ſet open and an
' in-let for a *long infirmity*, ſo that this mode of defal-
' cating the vigour of the *Spirits* doth for the moſt
' part (as I have ſtrictly heeded *many years*) diſarm
' and plunder Nature in ſuch ſort that it cannot reſiſt
' the Aſſaults of every petty infirmity, witneſs thoſe
' multitudes who after ſharp conflicts fall either into
' relapſes, or Agues, Scorbute, Dropſies, Conſumpti-
' ons, Atrophy, Jaundiſe, Aſthmaes, *&c.* which might
' be eaſily prevented, if a mature regular courſe were
' taken

'taken to give convenient *Emeto-cathartics*, *Analep-*
'*tics*, *Diaphoretics*, which ſafely and ſpeedily cleanſe
'the Stomach, keep up the ſtrength and breath, that
we need not fear any miſchief from this late invention,
'Redundance of *Sulphur*, or Salt in the *blood*, no
'more than *choler*, *phlegm*, and *melancholy* in the An-
'cients.

p. 108. ''The obſervation of Doctor *Willis* is this: *de febr.*
'p. 75. *Præ cæteris vero obſervatione conſtat, quod*
'*crebra ſanguinis miſſio Homines febri aptiores reddat.*
'*i. e.* Now above all, it is certainly known according
'to obſervation, that often bleeding makes men more
'apt to fall into a Feaver: Again he follows it cloſe.
'*Hinc fit ut qui crebro mittunt ſanguinem, non tantum*
'*in febres proclives ſint, verum etiam pingueſcere ſole-*
'*ant propter cruorem ſucco Sulphureo plus impregnatum*:
'*i. e.* Hence it comes to paſs, that they who often
'breath a vein, are not only prone to fall into Feavers,
'but alſo are wont to grow fat by reaſon the blood is
'full of Sulphur. In another place to this purpoſe he
'drives it home. *Qui ſanguinem habent ſole volati-*
'*liſato bene ſaturatum ij ſunt minus febribus obnoxii:*
'*hinc etiam qui ſæpius ſanguinem emittunt ad febres*
'*aptiores ſunt.* They whoſe *blood* abounds with *vola-*
'*tile Salt*, are not ſubject unto Feavers: for this cauſe,
'they that uſe *Phlebotomy* often are more liable to Fea-
'vers.

p. 109. ''From hence——*G. T.* forms this Epilogiſme.
G. T. underſtands not what a *procatarctick* cauſe is: it is here a *cauſa* ωεϱι γινομένη
'Well then the Doctor and I agree thus far in the
'main, that frequent bleeding procures Feavours;
'which is ſufficient to back my Aſſertion, that Phlebo-
'tomy is no good method of healing, ſith it is plainly
'a *procatarctick cauſe of Feavers*. For whatſoever
'means exhauſting the ſtrength (as I can demonſtrate
'this courſe doth, more or leſs, ſenſibly or inſenſibly)
'inviting or making way for Feavers, inſtead of pre-
'venting of them, is not to be approved of or allowed

in

'in curing the *Scurvey* or other diſeaſes: unleſs we do 'act like *Tinkers*, ſome whereof are reported to amend '*one hole* and make *another*: for how can it poſſibly 'conſiſt with the honour and credit of a Phyſician, '*quem creavit Altiſſimus*, to go about to correct the 'blood by often letting it out in a Chronick diſeaſe, 'and likewiſe withall to uſher in, or as it were to be a '*Pander* to the introduction of an *Acute feaver*, which 'in a ſhort ſpace diſſipates that ſtrength which this '*Phlebotomical harbinger* hath in part worſted?

In *this* Argument there are ſo many *defaults* (which are obvious to be ſeen) that I muſt recommend again to theſe *Baconical* Philoſophers, a *Caution* I have more than once given them; which is to **omit in all their diſcourſes thoſe vexatious conjunctions, Cauſals and Illatives**: 'Tis meer *pedantry* for *them* to be tyed up by ſuch **particles**, the idle *foppery* of *Grammarians*, and *Logicians*, and *men of common ſenſe*. The *Reaſon*, if reduced to *form*, runs thus.

That which inclines unto a Feaver is not a proper remedy in a Feaver.
But frequent blood-letting inclines to Feavers.
Ergo.

The *Major* is falſe *every way*, whether it be ſuppoſed that *Phlebotomy* produce ſuch an effect *per ſe* and *directly*; or by *accident*, and only in *ſome perſons*, in *ſome circumſtances*. For were it true that *Phlebotomy* did *directly* and *whereſoever it is uſed* introduce a *Feaver*, yet it may ſo happen that a *Feaver* may be *expedient* to ſome Patients for the *prevention of greater evils*, and ſometiems for the *curing of them*: and in *theſe caſes* 'tis as *much prudence* in a *Phyſician* to acquieſce in, or run the *fortuitous hazard* of a *leſſer* or *leſs dangerous evil*, as 'tis for *Stateſ-men* in the *Body politick*. Nature doth

 often

often cure *one diſeaſe* by introducing *another*: and commuting the *more dangerous* into another of *leſſer hazard*: as any *intelligent Phyſician* knows, who underſtands the *Metaptoſis* and *Metaſtaſis* of diſeaſes. I am not obliged to *read* to theſe Diſciples of my Lord *Bacon* a *courſe of Medicine*. There is an *Aphoriſme* of *Hippocrates* to this purpoſe. *Quia convulſione aut diſtentione nervorum tenetur, febre ſuperveniente liberatur.* Upon which words *Hieremias Thriverius* doth thus comment. *Alio modo febris convulſionem tollit ex plenitudine, alio rurſum modo diſtentionem: convulſionem enim curat, quia plenitudinem diſcutit; diſtentionem vero quia inſigniter univerſum corpus incalefacit: forte etiam diſtentio convulſionis genus neſcit. Quicquid autem ſit, utrique febris confert, ac potiſſimum diaria, imo & putrida minus periculi affert, quam ipſa diſtentio. Fruſtra ergo conflictantur in ea queſtione Neoterici, an putridam febrem convenit excitare in convulſione ex plenitudine, aut flatulento tumore.* Which that it may be *lawfully* and *prudentially* done (but not by every *fool*) is a *judged caſe* amongſt us: and were it not *lawful*, the Argument would by a *parity* of reaſon extend to ſeveral *operations* in *Chirurgery*. It is the judgment of *Celſus* long ago, with which I conclude. *Sed eſt circumſpecti quoque hominis, & novare interdum, & augere morbum, & febres accendere; quia curationem, ubi id, quod eſt, non recipit, poteſt recipere id quod futurum eſt.*

Vide Steph. Roder. Caſtren: **Duæ ex quibus.** Valles. in Epidem. l. 4. p: 448. in hiſtoria *Alcippi.* & ibid. p. 401. in hiſt. *ſemulæ emptitiæ.* *Hieremias Thriverius* Brachelius in lib 4. Aphor. 57.

Valles. controverſ. Medic. l. 8. c. x. *Hieron. Rubeus* in *C. Celſum* l. 5. ſect. 4

C. Celſus de Medicina l. 3. c. 9.

The *Major* being thus *falſe* in that *ſenſe* which was moſt *pertinent* to his purpoſe: 'tis moſt *ridiculous* in the other: For who will not *immediately* laugh at him that ſhould *thus* determine? *That which may in ſome perſons, and in ſome circumſtances incline unto a Feaver,* **is neber** *the proper remedy of a Feaver?* And how can this *Bacon-face* upbraid us *herewith*, who doth himſelf preſcribe to his Patients in Feavers *the moſt generous liquors of the ſubtileſt ſmack, exhibited largely,*

Pr. 1695.

largely, without insisting upon the nicety of any danger from heating? and yet his *Sack* and other *generous liquors* may ingender *Feavers*, and *other distempers in the healthy*. In fine, Whoever *rejected the use of a thing for the abuse*, or condemned *peremptorily* any *cause* for *accidental inconveniencies following* thereon, but such a *Dulman* as this *Helmontian*, and his *brethren* the disciples of my Lord *Verulam*.

To the *Minor* I reply: that for the *observations* made by this *insipid pretender to Pyrotechny*, I regard them not at all: he hath not *judgment* enough to *make one*. *Ego vero sicuti experientiam multi facio, dummodo commodum expertorem nacta sit: Ita si unicuique qui se expertum dicat temere credidero, ridiculus profecto habear: ut qui & fori circulatores ac loquales vetulas, agrestes quoque sacerdotes in pretio habeam. Nam si quæras, omnes uno verbo, quæ proponunt se expertos dicunt.* It is true I have a great reverence for the name of *Experience*, and the bare *mention* thereof commands an *attention* from me: But it hath been the peculiar *misfortune* of my *education*, that I have been taught, not *rashly to assent: nor to believe every thing that is told me, since there is nothing but may be spoken by some body. I can be so* **civil**, *and so* **curious** *as to give the Relator an hearing, how mean soever he be, but before I credit him, I must consider* **whether the thing be possible**? *and withall (because my knowledge is not the adequate Measure of possibilities in nature)* **whether it were done**? *If the thing did succeed, I inquire,* **whether it will constantly, or most commonly follow upon the like causes and circumstances**? Or **whether it is a rare accident**? *In the two first cases, the* **knowledge thereof** *makes a Physician the* **better Artist**: *the latter adds to his* **general Science** *of natural Phænomena, but not at all to* **his Art**, *except in cases* **as rare** *as the Phænomenon related.* In Artibus, inquit *Galenus*, duo sunt præ-

Novæ Acad. Florent. opuscul. p. 21.

Io. Riolan. in resp. ad dubia Anatomica *Barthol.* p. 75.

ceptorum genera, unum eorum quæ perpetuam habent veritatem: alterum, quæ utplurimum ita se habent, & tolerantur: quæ raro fiunt, ibi locum non habent. At hodie multi sibi placent in scribendis & obtrudendis observationibus raris, tanquam novis Artium mysteriis: sed rara non sunt Artis. *I do also consider the quality of the Relator: the vain-glorious and ambitious are easily deceived, because they passionately desire the thing should be so, and 'tis for the credit of such Observators, if it be so: the young are easily imposed upon by the little experience they have of things, the credulity that is in them naturally, and the good opinion or hopes they have of the integrity of others; and because they are conceited of their own knowledge (though the prospect of things be narrow) they are prone to opiniatrity, and vehement in their assertions, though too unsetled, and impatient, (as well as ignorant) to weigh any thing maturely and with all its requisites. I do not weigh the greatness and opulency of Relators, but value them as they are* Artists, *for such only can judge in their own Faculties: And when controversies arise the* Stagirite *deluded me into an opinion, that the most* probable *tenet was that which the* most, or the *most* intelligent *did profess.* This *Pyrotechnist* upon many reasons deserves not *any credit*: he writes Books as Mountebanks *paste up Bills*, to invite *custom*: the *Medicines* he recommends are such as by the *sale* thereof he would advantage himself: all he *publisheth* is in a subserviency to *this end*; and 'tis not his skill, but his ignorance that is concealed in his *Arcana*: all that ever sweet *William* or *Andrew* related upon a *Quack-salvers* stage deserves as much of *heed* and *esteem*, as what—— *G. Thompson* talks. I do not ask *thy pardon* Oh! most illiterate and dull disciple of my Lord *Verulam*, for dissenting from Thee. But I with *submission* and *deference* beg leave for not adhering to Doctor *Willis*: No man of *understanding* can condemn

Ar. Rhet. l. 2. c. 4.
Ἐυεξαπατητοί εἰσιν, ἐλπί ζουσι γὰρ ῥᾳδίως—καὶ εὔπιστοι, διὰ τὸ μὴ πολλάκις ἔξη πατῆσθαι.—— ὃι καὶ εἰδέραι πάντα ὅιονται, καὶ διεχυρίζονται.

his

his practise: he hath not altered the *Authentick methods*, but given *new* and *plausible reasons* for an *Ancient procedure*: This Character is due unto *him*, that *scarce any man surpassed him in his thoughts*, *when* awake; and 'tis his *peculiar* happiness, that his Dreams are *pleasant* and *coherent*. Amongst all that have written about *Phlebotomy*, and its *abuses*, I never met *with one* that recounted *this* for one *evil consequence* thereof, that it inclines men to Feavers: I find *P. Castellus* to reckon up *twenty five* evil accidents which sometimes ensue *thereupon*: but *this* is none of *them*. Nor do I see that it is reconcileable to *that effect* of Phlebotomy, whereby it refrigerates the *habit of the body*, and the *common distempers* which follow the *Abuse* of it, are told: If it be *true* that it inclineth people *to be fat*, and *fat people* are neither so *hot*, nor incident to *Feavers*, as the *lean* and *bilious* (though otherwise more *weak*) there is reason why my doubts should increase upon me. It might, with some colour, have been said, that *excessive Phlebotomy* did dispose to the *Rheumatisme* and *Gout*; but not to *Feavers*; except *by accident*, that some *persons* having contracted a *grosser* and more *sanguine habit of body* upon *Phlebotomy*, and (*such complexions* being most capable of any *malignant* or *pestilential* and *contagious* infection, not by reason of their *phlebotomy*, but from the *habit of body*, which whether *natural* or *adventitious* is lyable to *those casualties*) falling upon any *excess* or other *occasional cause* into the Small-pox, or *Sanguine feavers*, the *observation* hath been raised into repute. It is a thing I have not seen to happen *vulgarly*: nor doth any *Author*, that I know, take much notice of that other effect, how Phlebotomy inclines to fat: I have read in *Joannes Fuchsius* a *Bavarian* that such a thing hath fallen *once*, or *so*, under *his observation*, in a Lady: and Doctor *Primrose* denies the matter of fact, that *Phlebotomy* will make those that are inclined to be fat, fatter:

Claudinus proposeth frequent Phlebotomy as a remedy for *fatness*. Venæ sectio omnino convenit; imo sunt, qui nihil magis ad detrahendam corporis molem valere existimant, quem crebram sectionem venæ. *Empiric. rationa.* l. 1. §. 1. c. 4.

Io. Fuchsius Compend. abus. p. 2. c. 7.

Primros. de vulgi error. l. 4. c. 50.

fatter: though persons that are *extenuated* and *emaciated* with sickness may by *bleeding* acquire a *greater corpulency*: And certain it is that in *those Countreys* where *Phlebotomy* is most used, there are fewest *fat men*, and *women*: as *Spain*, *France*, and *Italy*, or *Egypt*, in this *last region*, it is their *particular study*, and a *distinct profession*, to make people fat, but 'tis by other courses then *Phlebotomy*. In short, I my self have been let blood above *fourscore times*, and yet am lean: and so far from being *feavourishly* inclined, that I never had *any* except the *Measils* once, and *Small-pox* twice: and twice a *tertian Ague*: and I find no *imbecillity* or *prejudice* in the least that should induce me to repent what *I have done*, or resolve against it for the future: But we must distinguish upon what is produced *by any thing* as its *cause*, and what is only a *concomitant* thereof: If it *ten thousand times* proves *otherwise*, we must not impute the *growing fat* of one Patient to *Phlebotomy* indefinitely, but rather to some *alteration* the *disease* (in which it was applyed) hath wrought in *his body*, to his *Analeptic diet*, and course of life, *subsequent* thereunto; or to his *individual temper*. And perhaps it may be not *impertinent* to add here, that as *Distillation* and the *burning of the blood* of a *Multitude of persons* hath convinced me that there is no such *deflagration of blood*, as that learned *Physician* imagines; nor any *vital fermentation* in the *blood* depending upon the *Chymical* ingredients of *Salt*, *Sulphur*, and *Spirit*, *&c.* so neither is the *Blood* of *corpulent persons* (I never tryed the *Obese*; because they do not bear *Phlebotomy*; except once in a *Youth* lately that was *extream fat*, and in danger of an *Apoplexy*, and it did not *burn* with so vigorous and lasting a *flame* as that of many *lean* men, but by its *crackling* gave testimonies of much *Salt*: yet the *Serum* was *insipid*) it is not properly *sanguine*, but *pituitous*.

Prosper Alpinus de med. Egyptiorum, l. 3. c. 15, 16.

But

But to reſume the diſcourſe: I expected to have ſeen the *Minor* proved by our *Helmontian*; but although I find that he ſaith *his obſervation did jump with that of Doctor Willis*, that Phlebotomy did incline to Feavers: Yet my *Reader* may ſee that in the *firſt part of the Argument*, as I have urged it in *his own words*, he reckons amongſt the *evil conſequences* of bleeding none that proceed from an *opulent* and *ſulphureous blood* tranſcending the *dominion* of the *ſpirit* that remains after *Phlebotomy*, but ſuch as argue an *impoveriſhing of the blood*, or a *cold indiſpoſition*. I will repeat it again, to ſhew how *juſtly* I cenſure his *Logick*, and ſo diſmiſs the *Argument*.

If it be ſo, that ſtriking a vein often in a long and tedious diſeaſe, is a preparatory for a ſharp Feaver, as we both herein jump right in our obſervation: *then am I certain that Phlebotomy repeated in an acute Sickneſs, is a door ſet open, and an in-let for a long infirmity, ſo that this mode of defalcating the vigour of the ſpirits doth for the moſt part* (*as I have* ſtrictly heeded *many years*) *diſarm and plunder Nature in ſuch ſort that it cannot reſiſt the aſſaults of every petty infirmity, witneſs thoſe multitudes of relapſes, or Agues, Scorbute, Dropſies, Conſumptions, Atrophy, Jaundiſe, Aſthmaes*, &c.

The proof of the *Minor* here is not only defective: but the *miſchief* is, that Doctor *Willis*, who *judiciouſly* uſeth *Phlebotomy*, commends *it* in *Feavers* both in the *beginning* and *augment* of thoſe that are *putrid*, (and alſo in *Diaries*) as the *principal* remedy (*inprimis conducit*). Dr. *Willis* de Febr. p. 197.

conducit) and ſpeaks in the place cited by our *Helmontian* only of a *cuſtomary letting blood in time of health*: Whereas this *Bacon-faced* Pyrotechniſt, ſaith that their **Wits jump** in this, that *often ſtriking a vein in a long and tedious diſeaſe is a preparatory for a ſharp Feaver*: Let any man read *the place* and ſee how he abuſeth that *excellent Practitioner*, whoſe words are, *Præ cæteris vero obſervatione conſtat* quod crebra *ſanguinis miſſio homines febri aptiores reddat, quare dicitur vulgo, quibus ſanguis ſemel detrahitur, eos, niſi quotannis idem faciant, in febrem proclives eſſe.* I am ſorry *he* ſhould ſeem to give a *reaſon* for a *vulgar error*: for *once* or *twice* bleeding doth no more create a *Cuſtom*, or diſpoſe *Nature* to an *anniverſary commotion* in the *blood*, than *one Swallow makes a Summer*: But certain it is, (I ſpeak of our *cold Climates*, not of thoſe *hotter* where *ſweat* and *tranſpiration* often prevent thoſe *determinate motions* of nature) that ſuch *here* as are *very much* accuſtomed to bleeding, keep *certain times* for it, their bodies will require it *at that time*, and, *if they refrain it*, they will feel an *oppreſſion* and *dulneſs*, or *laſſitude*, and *may* fall into a *Feaver*, but *Aches*, *Rheumatiſme*, *Gout* are more likely, except other *accidents* concur to produce a *Feaver*: if the *ebullition* be no greater than to produce a *Laſſitude*, 'tis poſſible (in *ſome bodies*) that the *Scurvy*, *Cacochymy*, *Cachexy*, *Dropſie*, *Aſthmaes*, *Cephalalgyes* may enſue: for the *morbifique ferment*, like the *ſcum boyled into the* broth; may mix *inſeparably* with the *blood*, and vitiate *for ever* that *great ſanguifier* with an *unexpreſſible pravity*: But he that thinks *'twill be ſo in diſeaſes*, when the Patient is *phlebotomiſed*, neither underſtands the *motions of nature*, nor the *effects* of a *ſound recovery*. Inſtead of Doctor *Willis* this illiterate *Baconiſt* (who profeſſeth to be ſo well verſed in the way called *Galenical*) ſhould have (as *he argues*) made his recourſe to *Avicen* and *his followers*, who are (*in many caſes*) fearful

Dr. *Willis* de febr. p. 166. edit. 1662.

fearful of *Phlebotomy*, least it should produce an *ebullition of choler*, or *crudity*: which *two inconveniencies* may produce all that——*G. T.* talks of. Thus sometimes *Tertians* have been *doubled*, nay turned into irrecoverable *continual Feavers*. But all the *cases* relating thereunto concern not an *intelligent Physician*, who understands what is *past*, *present* and *to come*, and knows *when to presume*, *when to fear*. But I intend not *to teach* these *fellows*: it were better for the *Nation*, and *them* too, that they were *Coblers*, or *day-labourers*, than *Practitioners* in *Physick*: a *Doctoral Diploma*, though purchased, will not sufficiently qualifie *them* for the *profession*; and as little doth the title of *Experimental Philosophers*, and *Verulamians*, avail *them*.

Hor. Augen. de miss. sangu. l. 4. c. 19.

The next Argument of his that I come unto, and which is more than *once* inculcated, as if he thought it a *Demonstration*, is this, as I may *form* it.

'' If it be not *fitting*, nor *useful* to bleed in the
' *Pest*, which is a *Feaver* κατ' ἐξοχήν, it is not *fitting*, nor
' *useful* to bleed in any *ill-conditioned* Feaver whatsoever.

'' But it is not *fitting*, nor *useful* to bleed in the
' *Pest*. Ergo.

'' The *Consequence* of the *Major* is thus proved.
' It is no less *criminal* to suffer the *Blood* to spin out in p. 82.
' any *ill-conditioned Feaver* whatsoever, then in that
' which is so κατ' ἐξοχήν. And, Albeit our *Phlebotomists* p. 99.
' do extenuate the matter, setting a fair gloss upon it,
' pretending that in *malignant Feavers* of the inferiour
' class, *Plethorick* or *Cacochymical* indications do ma-
' nifestly require their *utmost assistance* before that *in-*
' *considerable venome* lying *occult*: I must, by their fa-
' vour, be *bold* to tell *them* they will never *solidly* and

 ' *speedily*

'*ſpeedily* make a ſanation of any great *Feaver*, or any 'other diſeaſe, till they handle it in *ſome manner* like 'the Plague: for there is *quiddam deleterium*, a cer-'tain *venenoſity* in *moſt maladies*; as I can prove *ex* '*facto*.

P. 81. ''The *Minor* is thus proved. For whoſoever at 'any time, upon what pretence ſoever of caution, 'attempts *Phlebotomy* for the *cure* of the *Plague*, takes 'a courſe raſhly to *jugulate* the Patient, unleſs ſome 'extraordinary redemption happen. Certainly here 'Doctor *Willis* (who allows to perſons *accuſtomed to* '*bleeding*, and in *plethorick bodies*, the humours being 'very *turgent*, though *ſeldome*, and with great *caution*, 'to *bleed*) ſpeaks *by rote*, for had he *Anatomiſed the* '*Peſt*, inveſtigated the nature of that *atrocious ſtroke*, 'as I have, feeling the ſmart of it *three ſeveral times*, 'he would as ſoon allow of piercing a vein in him 'who hath taken an intoxicated draught, as at *any time* 'in this caſe, where the *Stomach alone* is the place 'from *whence* the *poyſon* is to be exulated. 'Tis no 'wonder if the *Galeniſts* ſtrait injoyn *bleeding*, where 'they find a *ſeeming ſoulneſs* in the *leſs malignant Fea-*'*vers*, when they dare be tampering *with it* in the '*greateſt*.——The only noted Sluce through which

P. 99. 'the *poyſonous matter* of *all malignant Feavers* paſſes 'away, is the univerſal Membrane, *the Skin*, on which 'the *Stomach* hath no ſmall influence, governing this '*Catholick coat* at its *pleaſure*, in ſo much that no ſuc-'ceſsful *ſweat* or eruption can be expected as long as 'the *Duumvirate* lies proſtrate under any inſulting 'calamity. Wherefore the Arch-deſign of the *Phyſi-*'*cian* is to cheriſh, corroborate, and remove *all impedi-*'*ments* of this eminent part, that it may protrude, ex-'plode, or ejaculate from its boſome to the utmoſt li-'mits, whatſoever is *virulent*, cloſely ſupplanting the '*fortreſs of life*. Now whether bleeding be any com-'petent *Medium* to atchieve *this*, let any one indiffe-

'rently

'rently verſed in the knowledge of the *Peſt* be Judge, 'wherein no honeſt able *Artiſt* dare open a vein, be-'cauſe it will attract the *Miaſme* inwardly, hindring 'the *extrinſecall* motion of the *Archæus*, for the expul-'ſion of what is *mortiferous*.

Before I come to anſwer *particularly* to the *Argument*, give me leave to animadvert upon ſome paſſages in this diſcourſe. As to the *Duumvirate*, I do not underſtand whether he be abſolutely of *Helmont's* mind, or no, making the *Pylorus* of the *Stomach* to be the place where the *Soul* is *radically* ſeated, and whence it diſplayes it ſelf principally in the management of the *Oeconomy* of the *body*; joyning the *Spleen* with the *Stomach* as an Aſſociate in that *Soveraignty*. There is not any thing more fooliſh than the *dreams* of *Helmont*; had our *Baconiſt* any underſtanding of *humane nature*, any converſe with *modern Writers*, the vanity of the *Duumvirate* would have been manifeſt unto him: I adviſe him to read the *Fundamenta Medica* of the excellent *Mæbius*, where he treats of the *Stomach* and *Spleen*: where he alledgeth nothing for himſelf, why ſhould I inſiſt on any thing. The general *Archæus* of the *Stomach* and that *appropriate to each part* ſeem to me to import no more, nor to be *more intelligible* than the *innate heat of each part*, and *that other influencing each part* and *diſſeminated from the Heart*: If the *innate heat of each part* be called a *particular ferment*, it matters not much: I comprehend it as little ſtill: How the *operations of Nature* are performed I *know* not, nor ever ſhall underſtand by *Canting terms*, or *Similitudes*: That the notion of *Fermentation* is *equivocal*, or not to be accommodated to the Stomach and its *digeſtion*, but by a certain *Animal heat*, I think *Mæbius* hath evinced: and I cannot be ſatisfied with the reply of *Kergerus*: and if the notion of an *implanted ferment* and *fermentation* be *ſuſpicious* there, where there

Mæbius fundam. med. *de uſu ventriculi*, p. 178. *Kerger.* de fer ment. § 3. c. 2.

is the *most* to be alledged for *it*, I may be pardoned for ſcrupling to fix *it* elſewhere; but to be content thus to manage the *Queſtion*, as if it were branched into theſe *Interrogatories*.

Whether the *Peſt* be a *Feaver* κατ' ἐξοχήν?

Whether in the *Peſt* it be *lawful* and *beneficial* to let *blood*?

Whether all ill-conditioned great *Feavers*, and *moſt maladies* have in them a *particular* venome, *deleterium quiddam*, and are to be cured by *Corroboratives*, and *Diaphoreticks*, without *Phlebotomy*?

The diſtinct ſolution of theſe *Queſtions* will make the anſwer to his *Argument* very facile: and I will not retrench upon the not-to-be-perceived *Empire* of the *Duumvirate*, nor inquire by *what means* the *ſtomach* hath ſuch an influence upon the *Skin* as to govern it as it pleaſeth.

The *firſt Queſtion* if I were to determine it out of —*G. T.* in his Treatiſe of the *Peſt*, I would reſolve in the *Negative* upon this reaſon. *If the* Peſt *be a Feaver* κατ' ἐξοχήν, *then is a* Feaver *inſeparable from it, and that* term *ought to be put into its* definition. *But*— G. T. *doth not* define *the Peſt by a* Feaver, *and grants that the Peſt in ſome produceth* no Feaver at all. Ergo——

His definition of the *Peſt* is this. *The Peſt is a contagious diſeaſe, for the moſt part very acute, riſing from a certain peculiar venemous Gas, or ſubtile poyſon, generated within, or entering into us from without: at the acceſs or bare apprehenſion of which, the Archæus is put into a terrour, and forthwith ſubmitting to the aforeſaid poyſon, inveſts it with its own ſubſtance, delineating therein the perfect Idæa or image of this ſpecial kind of ſickneſs diſtinct from any other.* He that can accommodate this *Definition* to a *Feaver*, or find any thing of a

G. T. of the Peſt. c. 1. p. 8.

Feaver

Feaver in it more than of the *Colick*, or *Dyſſentery*, *Diarrhœa*, underſtands more than I; for even theſe have been *Contagious*, as well as *Epidemical*: Perhaps he will reply, that the *Peſt* is *alwayes ſo*: But in *this*, notwithſtanding his boaſting here he underſtands the *Peſt*, and (whereas *Rondeletius* and other *Galeniſti* diſſected many that died of the *Plague*) he did anatomiſe one that deceaſed of *it*, yet doth he not know the *Nature of it*: For the *Peſt* is not *alwayes* contagious, there being recorded many caſes in which the *Peſt* hath ſeiſed *one perſon*, and extended no further. However if the words Contagious diſeaſe do not include a Feaver κατ' ἐξοχὴν, there is not any mentioned in the definition: and if they do, then is alſo the *Scabbado*, and *Leproſie*, &c. a Feaver κατ' ἐξοχὴν, ſince each of theſe is a *Contagious diſeaſe*. In ſum, He grants that the *Peſt* may invade without a Feaver, in theſe words.——*It produces a manifeſt Feaver in this man*, and in that none at all, *or hardly any ſenſible*.——Theſe words do not become a man that *Holds the Peſt to be a Feaver* κατ' ἐξοχὴν, and carries on the *Hypotheſis* ſo far as to make all *malignant*, *putrid*, *Feavers* to participate thereof, and bear ſome *reſemblance* thereof: and (which is *pretty*) that *almoſt all maladies* (either *Feavers*, or not) fall under the *ſame predicament*.

Isbrand. a Diemerbrook de peſt. l. 1. c. 7. §. 1. p. 18. edit. 1665. Amſterdami. & Zacchias Qu. medico legal. l. 3. tit. 3. Qu. 1. §. 13, 14. G. T. of the Peſt. c. 3. p. 42.

Isbr. a Diemerb. de Peſte l. 1. c. xii.

But I paſs from——*G. T.* to inquire into the true nature of the *Peſt* according to the moſt *learned* and *judicious Practitioners* that ever attended *in it*. The moſt accurate *Isbrandus a Diemerbrook* relates how many in the *Peſt* at *Mymmegen* (where he was *Viſitant*) had the *Peſt* without any ſigns of a *Feaver*: nor was this to be ſeen only in ſuch as dyed *ſuddenly*, but in thoſe that had *Botches* and *Carbuncles*, yet went *up and down* and purſued *their buſineſs*, without being *any way* feaveriſh: of which number *himſelf* was one. And he with the allegations of many *Authors* and Hiſtories of

So *Van der Mye* during the ſiege of *Breda*, relates cauſes of ſuch as had the *Plague*, and yet during the whole time of their Sickneſs had *no Feaver*. Van der Mye de morbis Bred p. 11, 12.

of *Plagues* justifies his *Definition*, in which he forbears to make the *Pest* to be a *Feaver*. In like manner *Casper Hofman* living in *Norimberg*, when the Town was besieged and the *Plague* raging, had the *Pest* himself with a *Carbuncle* on his shoulder, *sed sine alio symptomate*, and taking due care of himself, without confining himself to his *bed* or *chamber*, he recovered: He instances in others that escaped, *in the same condition*. With these agreeth *Nardius*, who was *chief Director* in the *Plague* at *Florence* in 1630. And the most learned *Massarius* who was Physician at *Vicenza* when the *Plague* reigned there in 1577. Out of all which it is manifest that the *Pest* is not a *Feaver* κατ' ἐξοχὴν, since there may be a *Pest* in which the *sick party* hath not any *Symptome* of a *Feaver*: 'Tis true that many learned men do define the *Pest* by a *Feaver*, and do hold that there is no *Plague* without *one*; but since *they* confess that *sometimes* neither *Pulse*, nor *Urine*, or any *Symptome* discover the least *characterisme* of a *Feaver*, 'tis against common sense to assert what they do in *such cases*. It is granted that usually the *Pest* is accompanied with a *putrid malignant Feaver* of a very uncertain *Type*; which sometimes appears not before the *Botch* and its *suppuration*, sometimes it begins with the *first attacque* of the *venome*. If what I have said be *true*, and that the *Pest* may be without *any sign* of a *Feaver*, or any *sensible* indisposition, I much doubt the *reality* of *his opinion* who talks so much of the affrighted *Archæus*, and the *troubles* which *essentially* and *inseparably* befal the *Duumvirate* of the *Stomach* and *Spleen* upon this *invasion* or *insurrection* of the *pestilent venome*: and I am more confirmed in my *jealousie*, because I have read that some of them that have had the *Plague*, have not felt any *symptome*

C. Hofmann. *Antisernelius* Lemm. 64.

f. Nardius in *Lucret.* l. 6. p. 527.

Alex. Massar. de pest. l. 1. (inter opera) p. 498. & *Forest.* de febr. l. 6. obs. 2. *Sennert.* de febr. l. 4. c. 1. Dudith. inter apist. Schoet. ep. 52.

Fateor febrem hanc pro putredinis aut dissolutionis conditione, copia aut incremento, modo majorem, modo minorem existere, quam in nonnullis Synochum, Tertianam continuam, & Febrem quemcunque ardentem incendio & calore æquasse, non ego tantum, sed & Collegæ mei, Doctores hujus urbis Medici clarissimi, ægris in publico Nosocomio decumbentibus operam præstantes observarunt. *Minderer.* de pestilentia. c. 6.

ſymptome about their Stomach, not ſo much as a *debility of appetite*, but ſometimes they have complained *firſt* of their heads *being diſcompoſed*, and moſt commonly of anxieties about their heart. But 'tis not my intention to write a Treatiſe of the Plague; 'tis a *diſeaſe* I never *ſaw*, though at *Fulham-peſt-houſe* and at *Windſor* I gave ſuch *Preſcripts* and *Medicines* in the beginning of the *Plague* as did equal *in effect* any of the *Arcana* of this *Helmontian*. As for the *knowledge* this *talkative perſon* ſhould acquire by *diſſecting one body*, it is but little; it argues want of reaſon in *him* to conclude generally from *one caſe*: the *Glory* of the *Act* is much abated in this, that *Bontius*, and *Rondeletius* in the preſence of many Students diſſected *ſeveral*; and (which is more) this *laſt* denies the *Carcaſſes* of ſuch as dye of the *Plague* are not *infectious*; ſo doth *Fracaſtorius*, *Jordanus*, *Gregorius Horſtius*: I allow that this laſt is not a *conſtant truth*, and that there are ſome *Obſervations recorded* by which it appears that the *Carcaſſes of ſuch as dyed of the Peſt* (before putrefaction) have been *infectious*. But to ſhew with how much *iniuſtice* he triumphs over the *Galeniſts* for his having diſſected one *ſingle body*, I ſhall let the World ſee that the *Galeniſts* (without proclaiming the *fact*, or cauſing a *Picture* of it to be cut) have done as much, and that the *variety* of *Peſts*, and the *different effects they produce in bodies* is demonſtrable. At *Palermo* in *Sicily* in 1647. there was a *Plague*, in which upon the diſſection of *many bodies* by a ſort of fellows, all whoſe knowledge did not enable them to cure a cut-finger, whoſe skill is but words, and advances nothing: theſe *Galeniſts* did Anatomiſe them. *Hæc viſa: vaſa omnia venæ cavæ ſanguine ita nigro, aduſto, atrabilari, turgida ac repleta, ut fuſi atramenti ſimilitudinem præ ſe ferret. Idem ſanguis tum in corde, tum in faucibus repertus fuit, pulmones atque hepar tumefacti, inflammati, ventriculus bile turgidus*,

Sennert. de febr. l. 4 c. 1. de peſtilent. *Paræus* de Peſt. l. 1. c. xii.

Rondeletius de febr. de febre peſtilentiali.

Volcherus Coiter diſſected many in the Hungarian Peſtilential feaver: ſo did *Iſſanius*, and *Rulandus*.

Joſeph. Manſcuſus pro ſect. cub. vena def. p. 153, 154.

dus, nulla in venis Meseraicis, nulla in intestinis læsio. Eadem hæc uniformiter in singulis fuerunt observata. If it be said, that 'twas *no great* attempt; because it was no very *mortal Pest*; yet this is certain, that it *lay in the mass of blood*, and that the *Duumvirate* was not so much concerned, as *G. T.* could have wished; not the *blood* in the *vena porta* altered according to Circulation: Well: that last at *Naples* I am *sure* was as *pernicious* as ours at *London*; and there the *Colledge* of *Physicians* caused many to be dissected: I have not met with the *Programme* published by *them*, but the *Duumvirate* gains nothing by what I do read. *Nam dissecta cadavera, hepar, pulmonem, intestina, nigris maculis interstincta, cor vero atro sanguine concreto luridum præbuere, ut Medici Senatus Neapolitani programmata die secunda Junii edita promulgarunt.* Neither doth it appear that what this *Pyrotechnist* saw in the body, after the man was deceased, was either the cause or seat of his distemper when he first fell sick: the last *strugglings* for life might express many *liquors* into the stomach, and vitals, and they upon their *commixture, setling*, and *refrigescence* create, other *Phænomena* than were meerly the effects of the *Pest*. 'Tis averred by *C. Celsus*, *Neque quicquam est stultius, quam quale quid vivo homine est, tale existimare esse moriente, imo mortuo.*

Carol. Valesius de Bourgdieu de pest. p. 239.

C. Celsus medicina l. 1. pref.

That I may the better decide the *subsequent controversies*, it will be requisite I represent a more *exact Definition* of the *Plague*; and to do that well, I must distinguish upon the word Pest, which is either taken in a *general sense*, and so comprehends any Epidemical contagious disease of which many in the same Country do dye, *be it attended with a Feaver, or destitute of one, be it occasioned by any specifick malignity, or anomaly of the Air, or arise from evil diet, or imported by contagion.* Thus the *Epidemical contagious* and *pernicious Colick* recorded in *Ægineta*, was a *Pest*:

Coyttarus de purpura c. 7. p. 54. *Massaria* de pest. l. 1. (inter opera) p. 497.

Peſt: thus *Squinancies*, *Catarrhs*, *Pleuriſies*, *Peripneumonies*, *Diarrhœas*, *Dyſenteries*, the *Meaſils*, *Small-pox*, have been *peſtilential*: nay the *Garrotillo* or *Strangulatory diſeaſe* in *Spain*, *Sicily* and *Naples*, though it ſeized upon and infected ſcarcely any but *Children*, was a *Peſt*, and eſteemed ſo by *Aetius Cletus* and others. Thus it was deemed at *Venice* to be a *Peſt* of which ſo many once *died*, though there were not any other *Symptomes* perceivable in *it*, but a *tumor of the teſticles* accompanied with *ſudden death*. *Legi ſuperioribus menſtibus libellum Veneti cujuſdam, qui experientiam teſtem citat, multos ex peſte mortuos eſſe, quibus teſticuli intumeſcebant ſolum, nullo præterea ſymptomate ægrotos illos invadente.* It matters not what is the ἀνώτατος of the diſeaſe, which way the *venenate* matter *inclines*, or what part it *principally* affects; a *Garbuncle* in the *throat* (as in the *Garrotillo*) is as *peſtilential* as a *Carbuncle* on the *hand*, or *toe*, if it be as *epidemical*, *contagious*, and *mortal*. So the *Chin-cough* may be *peſtilential* upon the like *qualifications*: and I believe *that* to be the *diſeaſe* whereof *Ballonius* ſpeaks, that it was *Epidemical* amongſt the Children in *France* in 1579. He calls it *Tuſſis Quinta*, and admires how it came by *that name*, and ſo doth his Scholiaſt Mr. *Thevart:* undoubtedly it was tranſmitted from *England*, and thence came that name, which the *French* miſtook for *Tuſſis Quinta*, and *Quintana*: that is the diſeaſe I am ſure he deſcribes: he ſaith *none ever writ of it*: and I believe it to be true as to *forreign Phyſicians*. Such miſtakes will *hereafter* make work for *Criticks*; who will make ſtrange *gloſſes* hereupon, as on the *Milordus* of *H. ab Heere*, and the *Cereviſia Tribopenina* in *Mercatus*; the firſt imports no more by *unus ex iis quos Angli Milordus vocant*, then *one whom the Engliſh call* My Lord: and the other intends nothing by *Cereviſia Tribopenina* than *Three-half-penny Ale*, and contradiſtinguiſheth from *Cereviſia dupla*, or *double Beer*. But

Bapt. Codronchius de morb. vulgaribus, c. 3.

Io. Crato aſſert. de febr. peſt. p. 13.

Aetius Cletus de morbo Strangulatorio c. 2.

Mercatus, Conſult. med. 14.

Duditbius inter Epiſt. Scholtzhii. Ep. 51.

Ballonius Ephemer. l. 2. p. 237.

Mercat. de recto med. præſid. uſu. l. 1 c. 2.

to resume my discourse; I add that in such times as there are diseases of *sundry types*, and *several symptomes*, so as that they may seem to be *different* and *sporadical diseases* only, yet in case they be *malignant*, *vulgar*, *pernicious*, they are to be accounted either as *so many Pests*, or as *one*, under *several disguises*: for it is not alwayes true that in the time of the Pest all other diseases *cease*, as is evident out of *Hippocrates*: Thus *Pestilential Peripneumonies*, *Squinancies*, and *Pleurisies* did at the same time rage in *Germany*, (as *Wierus* relates) near the *Rhine* in 1564. And during the Siege of *Breda* amongst the Garrison at the same time, besides the *vulgar Plague* many *pestilential* diseases, as *Tenesmes*, *Dysenteries*, *Cephalalgies*, and *Catarrhs*, which retaining their *distinct types*, were withall *pestilential*: nor is it strange that I should reckon upon *all these* as radically one disease; for in the vulgar *pest*, such was that at *Athens*, there are reckoned up as one Pestilence a *multitude of diseases* that, were it not for that *common mixture* of a *pestilential venome*, must have been reduced to *several heads*. Thus in the *spotted Feaver* at *Lubec* did *Neucrantzius* observe that almost *all manner of diseases* were the effects of that Pest: "*Purpuræ venenata qualitas intro con-*
"*cepta, ut tota specie nobis adversa, ita ad morbos totius*
"*substantiæ merito refertur. Quamvis enim ultro con-*
"*cedam nullum fere morborum aut symptomatum genus*
"*dari, quod non in purpura sese offerat: isti tamen*
"*morbi consuetis non cedent remediis: & in singulis*
"*morbis ac symptomatibus peculiare atque abditum quid*
"*apparebit, quod experto & prudenti Medico supra sor-*
"*tem istorum, sed simplicium, morborum esse, imo a cæ-*
"*teris similibus totius substantiæ morbis se vindicare,*
"*totoque genere inimicam illam qualitatem, in qua esse[n]-*
"*tialis morbi hujus proprietas posita est, manifesto decla-*
"*nare videatur. Sic lues venerea nulli non morborum*
"*conjungitur, qui tamen non illis consuetis remediis, sed*
alexiteriis

Hippocrates Epidem. l. 3. cum notis *Vallesii*. p. 279, 280, 281.

Wierus Obs. l. 1. de epidem. pleurit. &c.

Vander Myo de morbis *Bredanis*, p. 4, 5.

Alex. Massar. de pest. l. 1. inter opera. p. 510, 511.

Neucrantzius de purpura, p. 65.

alexiteriis junctis se curari postulant, adeo ut plerumque fallant non solum ægrotantes, sed ipsos etiam medicos, docente Fabio Paulino lib. 1. comment in pestem Atticam Thucydidis, p. m. 37. *Idem in Scorbuto Arctois locis medicinam facientes experimur, qui cuilibet morborum & symptomatum conjungi solet, ut nullis in reliquo corpore sceletyrbes indiciis morbi quælitas uni membro impressa aliquando hæreat, medicos non raro ludat, curationemque moretur.*

Under the aforesaid *Definition* of Pests I include all those that are called **Pestilential feavers**, such as the *Sweating sickness*, *Hungarian* and *Spotted feaver*, the *Hectick* and *Semitertian pest*, of which you may read in *Schenckius*: for by the doctrine *de Conjugatis*, a **Pestilent Feaver** is a **Feaver that hath the Pest.** This is not meerly a *Logical Quirk*; several *Practitioners* averre it: and particularly *Mindererus*: whose words in opposition to such as distinguish betwixt a *pestilential Feaver* and the *Pest*, are these. *Schenckius* Obs. Medic. l. 6. *Reymond. Mindercr.* de pest. c. 6.

Febris pestilens (ut illorum distinctione utar) aut vera est, aut non vera; si vera est, nil aliud est nisi Pestis ipsissima, & ut doctissimus Hieron: Mercurialis loquitur a vera peste inseperabilis: si non vera, jam nihil vel parum commercii cum peste habebit, & sic pestilens non erit, nisi ob similitudinem aliquam symptomatum (quod forsan Galenus voluit) ita eam appellare placeat, & sic inter malignas annumerabitur: quod si gradum intenderit & vere pestilens effecta fuerit, nil nisi pestis erit: alioquin simile esset dicere hic Saxo est aut Suevus, ergo non Germanus: aut hic Hetruscus est ergo non Italus. Unde febres malignas συνώνυμον *& æquivoce pestilentes quandoq; dici observandum.* i.e. A *pestilent Feaver* (to use their distinction) is either *really such*, or it is *not so*: if it be *really such*, then it can be nothing but the *Pest* it self, and as the learned *Mercurialis* observes, no more distinct *therefrom* than it is from *it self*: if it be not such *really*, then it is not to be accounted

counted *peſtilential*, except you pleaſe to *nick-name* it *ſo* by reaſon of ſome *reſembling ſymptomes* (which it may be was the ſenſe of *Galen*) whereas it ought to be reputed only *malignant*, above which *degree* if it riſe and become truly *peſtilential*, 'tis nothing elſe than the *Peſt*: And to ſay *otherwiſe* is as abſurd as to argue, this is a *York-ſhire* or a *Devon-ſhire* man, therefore no *Engliſh-man*. From whence it is evident that *Feavers* purely *malignant* are but equivocally ſtiled *peſtilential*: and all that are *peſtilential* are ſorts of Peſts. Thus when *Peſtilential Pleuriſies*, *Squinancies*, *Cholerick paſſions*, *Lethargyes*, *Eryſipelas's* do rage, they looſe their uſual *denomination*, and become ſo many *Peſts* (or the ſame) attended with a *Pleuriſie*, *Squinancy*, *Cholerick paſſion*, *Lethargy*, or *Eryſipelas*, *&c.* And then thoſe otherwiſe *formal* diſeaſes become but *ſymptomes*, and *accidental conſequences* of the *Peſt* which vary not the *eſſence* thereof. Nor is it neceſſary to the truth of the *Definition*, that all *theſe Peſts* ſhould be *actually* Epidemical, or *afflict all ſorts of men*; or be *alwayes equally mortal*: for the *ſpotted Feaver* is as much *included* here, though it extend no further than *one ſingle perſon*, and ſo is a *peſtilential Catarrh*, or *Cough*, as our *Phyſicians* include the *Plague* (commonly ſo called) under *Epidemical* diſeaſes, though ſometimes it extends not its *contagion* beyond *one family*, or deſtroy but one *perſon*. It hath happened that a *Peſtilential Peripneumony* accompanied with *ſpitting of blood* was more fatal than any vulgar *Plague* ever heard of: ſuch was that in 1348. written of by *Guido de Cauliaco* (who lived then) it poſted from the *Eaſt* to the *Weſt*, and ſcarcely left ſurviving then the *tenth part of mankind*, it ſo much. And the *Spotted Feaver* hath *ſometimes* been more *pernicious* than the *Plague* in *France*: Again, I muſt ſay that *ſometimes* even theſe Peſts may not be *pernicious* or *mortal*: Such was that *Peſtilent Epidemical Cough* in 1580.

Id. ibid. *Neucranz de purpura* c. 1. p. 150.

Neucranz. de purpura, c. 3. p. 35.

Isbr. a Diembrook de Peſt. l. 1. c. 1. §. 3. & c. 2. ſect 3. *Minderer.* de peſt. c. 6.

Schenckius Obſ. med. l. 6.

Geyttaus de febr. purp. c. 5.

1580. which over-ran all *Europe*, yet, as ſick as men were, *there dyed not one of a thouſand:* yet doth not this derogate from *my opinion*, ſince not only thoſe that write of *it* do allow it to have been *peſtilential*; but even in the vulgar **Plague**, where it is expected **moſt ſhould dye**, at *Millaine* in 1576. and 1577. *Septalius*, who was *Phyſician* in it, records it, that **many more ſurvived than died at that viſitation:** yet, ſays he, would I have no body to deny it the title of a **Plague**, for it had **all other ſigns of the Plague.**

Wierus Obſ. l. 2. de peſtilenti & Epidemica tuſſi: & *Foreſtus* Obſ. l. 6. obſ. 3. *Io. Sporiſchius* de febr. Epid. c. 4. p. 128. *Vallenola* in append. ad loc. commun. c. 2. *Septal.* de Peſt. l. 1. c. 14. p. 23.

There is a great *diſcrepancy* betwixt the *violence* and *ſymptomes* of the ſame *peſtilential diſeaſe* in its beginning, progreſs and end; betwixt ſuch a *diſeaſe* (to *appearance* the ſame) when it rages at *one time* and at *another*, in one ſeaſon of the *year* and in *another*; upon *ſome ſorts* of men above *others*, and ſome *Nations* above *others* (though living *together*, and uſing the *ſame dyet* and courſe of life) whereupon *circumſpect Phyſicians* maturely conſidering that this variety cannot be alwayes imputed to the *diſcrepancy of dyet*, or *difference of ſeaſonableneſs* in years, or ſuch like circumſtances, *they* have allowed of a great *variety* of *venomes*, or *gradations of putrefaction*, and eſteem theſe *Peſts*, though they do agree in one *generical nature*, and ſome *reſemblance of ſymptomes* and *effects*, yet to ariſe from *different poyſons*, or *graduations of putrefaction*; and *hence* it is that no *two Plagues* are ever almoſt *cured* alike; nor is it poſſible for to find out one *univerſal Antidote* againſt *them all*: As in *poyſons* ſome are *Septic*, and *Arſenical*; ſome of *another nature*, as the poyſon of *Scorpions*, *Vipers*, the Serpent *Dipſas*, *&c.* of *Napellus*, *Aconite*, &c. ſo in *Peſts*, by the *effects*, it is no *vain fancy* in the *Paracelſians*, and *Quercetan*, or *Mindererus* to gueſs that there is a variety of *venomes* in *qualities* correſponding much with thoſe *known poyſons*, and *analogous* unto *them*. " *His conſideratis, obſervatoque variarum peſtilitatum diverſis locis ac temporibus*

Quercetanus redivivus. Art. medic. pract. p. 39, 40, &c. *Mindererus* de peſte. c. 3.

poribus graſſandi modo, magiſtra rerum experientia do-
cebit, venenum peſtis adeo eſſe varium & diverſum ut
ſingulæ propemodum peſti ſuæ ſit peculiaris juncta mali-
itia inferendæ neci ſufficiens, cujus diſcrimen a nocendi
modo & ſymptomatum varietate petendum ſiet. Dili-
gentiſſime proinde hæc venenoſitatis & peſtis animad-
vertenda, & curationem ſuſcepturis obſervanda. Ete-
nim ſi peſtis graves ſomniculoſitates, ingentes ſapores
Lethargos & comata invexerit longe aliter tractari ſeſe
poſtulabit, quam ſi vigilas inquietudines aut ingentes
cordis ſiccitates intulerit. Venenum enim peſtilentiale
modo Dipſadis, modo Vipera, modo Cicutæ, modo Næ-
pelli aut alterius exhibiti toxici naturam æmulatur, cui
in curatione ſingulari diligentia attendendum.

Prout igitur his, per peculiaria ac cuique propria an-
tidota ſuccurrimus, ita & peſti, modo per hæc, modo per
alia alexipharmaca obſiſtendum admonemus.

Et nos quandoque hæc ipſa ſtudioſius conſiderantes,
peſtem ab exhibitis venenis aut animalium venenatorum
citu, morſu ac percuſſione immiſſis vix quicquam differ-
re cognovimus.

P. Neucrantzius de purpura, c. 6. p. 69, 70.

Concerning the *Spotted Feaver* was obſerved by that *ſolid* and *circumſpect* Practitioner *Paulus Neucrantzius*. *An etiam purpurati veneni eſſentiæ diverſitas*
variare purpuræ ſymptomata poterit? Ita cenſeo.
Namque ea late admodum patet, & univerſo ambitu
venenorum fere circumſcribitur, variatque ut illa varia
& prope innumera ſunt. Hinc plerumque continua-
rum febrium indolem ementita, interdum anginæ ma-
lignæ epidemiæ, pleuritidis, colicæ, alteriuſve morbi
ſpecie, ſingulari quaſi partium delectu, affligere, atque
hujus aut alterius veneni deleteriam vim æmulari vide-
tur, ut morbum hunc novis plerumq; ſymptomatibus emer-
gere medici obſervarint. Ut enim in peſte varietatem
veneni memorant Authores, qua eadem interdum Anti-
monii, interdum Arſenici, Napelli, aut alterius venenatæ
materiæ virus exprimit, ſymptomatum ſimilitudine, &
alexi-

alexipharmacorum diversitate: ut quæ uni pestilentiæ salutis fuere, succedentibus annis in altera peste consuetos effectus negent; ita & in purpura ac malignis sebribus eandem affectuum diversitatem, nec eadem remedia semper prodesse advertere licet. Sed nec diversis solum temporibus purpuram diversos characteres exprimere, sed in una & eadem Epidemiæ constitutione, modo hos, modo alios referre, credendum, eadem essentiali sed specialissima veneni diversitate; quæ ut specie ab altera variat, ita pro indolis suæ conditione diversa symptomata procreat, æmula & hic πολυμόρφε pestis constitutione, in qua in eadem tempestate diversos species morbos, qui ex illa maligna aeris impressione perniciosam vim acceperint, grassatos fuisse notum, ex epidem. l. 3. sect. 3. I might illustrate this further by the *difference* betwixt the Sweating Sickness, and other Pests at *one time*, and *another*: But I have said enough to shew that notwithstanding my *Definition*, I do allow that *Pests* may not alwayes be equal or equally *pernicious*, or equally *contagious*, and yet retain *their name*: there may be such *different degrees* of *venoms*, or that *superlative putrefaction*, and yet the *species* not be *varied*. I speak dubiously about the terms of *venome* and *superlative peculiar putrefaction*, because the case is intricate, *what to call it*. I know the *Philosophy of this Age*, which consists most in Similitudes, will more approve of *venome*; but if it be hard to defend *Putrefaction* in order to the *production of Pests*, 'tis no less difficult to illustrate *Contagion* by *Poysons*; and in reference to the *practise of Physick* in *Pests*, I think I can demonstrate that the *Galenical notion* of *putrefaction* is the most *utile*. Some men think they make a great *improvement* in a *Science*, if they *illustrate* it by a new *Metaphor*, or introduce a *novel term*, the *import* whereof is no more *emphatical* or *perspicuous* than the *former*; yet this must be deemed a *new discovery*, and by the *imputation of ignorance*, Students are deterred from reading the best Authors.

Thus

Thus we climb downward, and advance as much as he that turn'd Donne's *Poems into* Dutch.

It remains now that I proceed to *define* the Plague in that *ſenſe* to which it is in *vulgar ſpeech* reſtrained: and amongſt the ſeveral *definitions* that are given of it by *judicious* and *experienced Practitioners*, I ſhall fix upon that of *Mindererus*, as the moſt exact and conformable to the *reality* of the *Phænomena*.

Mindererus de peſt. c. 6. The Peſt is a venenate malady, very deadly, and contagious, primarily affecting the heart, and commonly attended with a Feaver, BOTCH, Carbuncle, and Spots or Tokens.

This *Definition* whoſoever would ſee *well* illuſtrated, let him read the *Author*, and alſo *Isbrandus a Diembrook*, *Palmarius* and *Quercetan*: not to mention *others*. It appears evidently hereby that this Peſt is but a *ſpecies* of that other more *general notion*: It ariſeth from a *peculiar ſort of putrefaction*, or *venome*, and though it have *ſymptomes* different from its *contradiſtinct ſpecies*, though it be *peculiarly* called the *Iſbr. a Diemb. l. 1. c. 1.* *Peſt*, the *Sickneſs*, the *Plague*, ὀπδημία, νόσος ἐπιδημιος, λοιμος, *il morbo*, *la malady*; and ſuch as make it a *ſuperlative putrefaction*, to ſhew that it is but of a *different degree* from the others, may alledge that ſometimes *malignant peſtilential Feavers* have turned into this Peſt naturally, or upon an *evil method of curing*: Exact *Definitions* are no more to be inſiſted on in *Phyſick*, than in *Law*; 'tis enough that they are *commonly true*, and that a *judicious Practitioner* knows when they *hold*, and when they *fail*. I have demonſtrated that the *Plague* (ſo called vulgarly) is not ſo *pernicious* alwayes as the *Spotted feaver*, or *peſtilential peripneumony*: it is not alwayes contagious. "*Tales ſunt illæ febres, quas* Galenus, 3. epid. comm. 57. *& alibi*, peſtilentes

Schenckius obſ. l. 6. & Hieron. Rubeus in C. Celſ. l. 3. c 7. p. 143. Riverius prox. l. 17. ſect. 3. c. 1.

Iſbr. a Diemb. l. 1 c 12. §. 4.

'pestilentes sine peste *vocat, quales se non raro observasse*
'*testatur* Amatus Lusitanus *cent. 7. curat. 27. Imo*
'Quercetanus *in Alexic. &* Riverius *sect. 3. de febr.*
'*cap. 1. dicunt hujusmodi febres non semel visas fuisse*
'*cum veræ pestis indiciis* (*puta* Anthracibus & Exan-
'thematibus) *& tamen a vera peste longe diversas fu-*
'*isse, quia non erant* contagiosæ. *Has febres* Saxionia
'& Riverius *appellant* Pestilentes sporadicas; *Crato*
'*& Liddelius*, pestilentes privatas: *alii* pestilentes
'spurias.——I shall add a passage of *Crato*, which is not that to which this *Author* refers, but which He, who lived *so long*, and was so *competent a Judge* by the *Experience* of many *pestilential diseases*, as his *dying words* doth import to the World: '' *Initio vero hoc tenen-*
'*dum, quod supra etiam monui*; pestilentes morbos *hoc*
'*quidem habere proprium, ut sint* plurimis pernicioſi,
'graves & lethales. *Ut autem* per contagium com-
'municentur, *nisi putredo ad istam malignitatem in iis*
'*divenerit, ut morbidam expirationem transmittant in*
'*alia corpora*, non necesse est. *Plurimos enim interire*
'*nullis prorsus contagionis indiciis extantibus, apparet.*
'Pestilentes *igitur* privatos, *nisi putredo in iis orta mor-*
'*bidum expiret, astantibus innoxios esse affirmamus*—— Id. ibid. p. 10.
'*Accedit ad hoc quod nostra quoque ætate in multis regio-*
'*nibus orientalibus & Meridionalibus*, Pestilentias *plu-*
'*rimis exitiosas fuisse constat: in quibus neminem* con-
'tagione contaminatum, *nec ullos a consuetudine ægro-*
'*tantium refugisse legimus*. i. e. In the first place it is to be held for a certain truth, that pestilential diseases have their properties, that *they are deadly to most, being very afflicting, and mortal.* But that they should be *contagious*, it is not necessary, except the putrefaction be come to that height as to produce such a morbid exhalation as may infect other bodies. For it is most apparent that many dye, and yet there is not any sign of contagion to be demonstrated by its proper effect, of having introduced the like sickness in others.

P. Zacchias though he do hold that the *Pest* is most commonly contagious, yet he proves *it is not necessary* it should be alwayes *so.* Quest. Medico-legal. l. 3. tit. 3. Qu. 2 sect. 21, 22.

Io. Crato assert. lib. de febr. pestilent. p. 18

We do therefore avow, that those we call *private Pests* do not prejudice or infect those that attend the sick party. ——Besides, even in our Age several deadly Plagues have destroyed multitudes in the Eastern and Southern Climates of the World, which yet have not diffused themselves by *contagion* unto others, so that none have declined to converse with the sick.

Whereas it is said in the Definition that it *primarily affects the Heart*, it is not to be understood so *constantly*, though generally a great *debility and disorder of the pulse, and prostration of the strength ensue*: for sometimes an *indisposition in the Stomach* is the first *sensible* symptome the Patient *feels*: and sometimes the *Head* is first and *primarily* affected, as in those that are *Lethargical* and *Soporous*, or *Vertiginous*. I read that *A. Paræus* going to visit one sick of the *Plague*, and hastily taking up the *bed-clothes*, that he might see and dress a *Bubo* which he had in his groin, and *two Carbuncles* upon his belly: presently a sudden thick, noisome vapour issuing from the *Carbuncles* that were apostimated, and broak, pierced his nostrils and discomposed his brain, so that he swooned away, and fell as it were dead and senseless upon the floor: afterwards coming a little to himself, he was giddy, and every thing seemed unto him to turn round, so that he had fallen to the ground again had he not laid hold of something whereby to support himself: All the comfort he had was, that he found no indisposition about his heart, no pain, no palpitation, nor any sign of any powerful and fixed debility of his strength. Which confirmed him in an opinion that only the *animal spirits* were tainted with that pestilent exhalation; in which he was more satisfied, by reason that he *sneesed* presently ten times with so great a violence, that his *nose fell to bleeding*, and *that evacuation* (as he thought) freed him from the *venenate* impression: for he felt no other ill effect afterwards.

A. Paræus Chirurg. l. 21. c. 12.

In

In that I ſay it is *commonly attended with a Feaver*; it is upon the grounds already alledged: I add that *P. Paaw* the great Phyſician at *Leiden* (in thoſe Provinces the *Plague* is frequent) denies that the vulgar *Peſt* is to be *defined* by a Feaver. For it is not an *uſual Feaver*, neither *ſanguine*, or *putrid*: there happens *oftentimes* no ſigns of either of thoſe in the *Plague*. It is not a *malignant Feaver*; for neither is the *type* and *characteriſme* thereof to be diſcovered here, no nor the *leaſt ſign of heat* frequently. You will ſay that ſometimes 'tis a *common Feaver*, ſometimes *malignant*: but neither is that *true*, for albeit *frequently*, nay, for the moſt part it be accompanied with a *Feaver*, ſooner or later, yet is that but a *ſymptome* thereof and *ſeparable* from it: they have different originals; the *Peſt* a *venome*; the *Feaver* a *putrid heat*. All *poyſons* do not ingender a *Feaver* in him that takes *them*: why ſhould we think otherwiſe of *Plagues*? In ſhort, *Experience* ſhews that ſometimes there is no ſenſe of any *great* or *unuſual heat* in the infected, no *thirſt*, no alteration in the *Pulſe*, *Urine*, or *Reſpiration*: where that which is *eſſentially conſequent* to a *Feaver* is not to be found, 'tis but reaſonable to deny the *antecedent* to be there. I refer the *unſatisfied* for to be further convinced by *Sennertus*.

P. Paaw tract. de Peſt. c. 2.

Sennertus de febr. l. 4. c. 1.

As to the *Botches* about the *Ears*, *Arm-pits*, and *Groin*, and the *Spots* (or *Tokens*) and *Carbuncles*, thoſe are ſo no neceſſary to this Peſt (though many die before any appear) that the *populace* is rather *ſuſpicious*, than *convinced*, till *they* be ſeen.

Having premiſed this *long diſcourſe*, which I hope will ſeem neither *uſeleſs* nor tedious to any Reader, the *ſolution* of the enſuing *Queſtions* will be brief.

Concerning *Phlebotomy* in the *Peſt*, whether it be *uſeful* or *legitimate*, it is a queſtion not to be reſolved otherwiſe than by diſtinguiſhing upon the *Peſt*: If it

be taken in a general ſenſe, I anſwer that it hath been frequently practiſed with *great and viſible ſucceſs* in ſeveral *Epidemical, contagious* and *frequently* mortal diſeaſes, as the (*a*) *Spotted Feaver*, the (*b*) *Pædanchone* or *ſtrangulatory diſeaſe* of the Children in *Spain*, *Sicily* and *Naples*: In the (*c*) *Hungarian* Feaver alſo: and in *Epidemical catarrh* (when it was in *Holland*) *Forreſtus* did with great ſucceſs *bleed*, in 1580. Obſ. Medicin. l. 6. obſ. 3. But I muſt alſo ſay, that our *Experimental Phyſicians* in theſe caſes do ſometimes interfere one with another; and at leaſt it is manifeſt that moſt of thoſe diſeaſes have been cured without *bleeding*: that it is to be adminiſtred with *great caution*; yet is it never more true that *Medicaments* are as it were the *hands of the Almighty*, then when in ſuch diſeaſes *Phlebotomy* is *prudently* uſed: all circumſtances muſt be *duly* weighed to the *adminiſtration* thereof; and there are ſo many *fatal inſtances* of the *evil ſucceſs*, that though they are ballanced by *contrary Experiments* made in all *Countries*, yet ought the *wiſeſt* to be *timorous*; and the *ignorant* ought to conſider, that *ſince in ſuch diſeaſes moſt dye by the violence thereof* (and this is their nature) *it ought not to ſeem ſtrange, if Phlebotomy prove as ineffectual, as other Remedies do.* In ſuch diſeaſes, 'tis not raſhly to be attempted in the *beginning* of the diſeaſe (as *Coyttarus* in his excellent diſcourſe obſerves) but when it is in his *progreſs*, and that the *nature* and *tendency* of the *poyſon* is manifeſt, and the *ſtrength of the Patient* better judged of, if *indications* require it, nothing is more *beneficial*; not that it is then *adminiſtred* to evacuate the *poyſon* (as our ignorant *Helmontian* doth ſuppoſe) but to allay the *putrid Feaver*, and *concoct* it; for *revulſion* in *peſtilential Pleuriſies*, and *Squinancies*, (wherein

(a) *Coyttarus* de purpurat. febr. c. 12, 13. *Petrus a Caſtro* de febr. puncticular. ſect. 6. & in dedicatoria epiſt. *Dileſt. Luſitan.* de venæ ſect c. 9. art. 4. p. 129. *Septal.* de Peſt. l. 5. c. 17. p. 217.

(b) *Bartholin.* de Angina puer. exercit. 5. *Severin.* de abſceſſ. p. 449. *Menatus* conſult. 14.

(c) *Gabelchover.* cent. 5. cur. x. in Scholio. *Ruland.* de febr. *Ungaric.* p. 270. & alibi.

(wherein each wiſe man divides his cares betwixt the *malignity* and the *diſeaſe it ſelf*) to prevent further *putrefaction* or thoſe inconveniences which ſome *direful ſymptomes* menace the Patient with. *Hieron. Rubeus* in *C. Celſum.* l. 3. c. 7. p. 140, 141.

In the more *limited ſort of* Peſt, commonly termed the *Plague*, as the diſeaſe is *uſually* more pernicious than in *thoſe others*, ſo do *Phyſicians* multiply *their fears*, and Patients their *ſuſpictons*. They are much divided upon the point; and though the generality of *modern Writers* oppoſe *Phlebotomy*, (or ſuſpect the good iſſue) nor can the *happy inſtances* for the *contrary* (though they may be alledged in all *Countries*) ſuffice to imbolden the preſent Age. The happy practiſe of *Botallus* is not regarded: *Maſſarias* (as learned and as well verſed as he was in the *Plague*) is not able to convince men: Not *Rodericus Fonſeca* at *Lisbone*, not *Septalius* at *Millain*, not the cautelous *Forreſtus*, who let them *blood* in the *Peſt* at *Delph* within eight hours after *infection*, though it were occaſion'd from *famine* and *miſery*, and that with *good ſucceſs*: not the preſident of *Hofman* in the *Plague* at *Norimberg*: Not the conſtant practiſe of the *Egyptians*, who in all *peſtilential diſeaſes*, and *plagues* do *bleed largely* the ſick parties, as *Proſper Alpinus* relates; and whoſe *example* and *experience* did ſo convince *him*, that in that excellent Book of his *de Medicina Methodica* he thus expreſſeth himſelf for the cure of *peſtilent Feavers*, and the Plague. " *Itaque laxata alvo lenitorio Pharmaco,* " *ad vacuationem ſanguinis declinandum. Primo ſecta* " *interna vena cubiti dextri in ea copia mittatur, quam* " *vires permittent: & in altero die, ſi corpus ſanguine* " *abundaverit, & vires permiſerint, ex altero brachio* " *evacuatio ſanguinis erit repetenda: in pueris, & in* " *viris, & mulieribus albidioribus ſanguis mittendus* " *itidem erit copioſus cruribus ſcarificatis, ex qua ſca-* " *rificatione, facta ſanguinis evacuatio in febribus pe-* " *ſtilentibus eſt utiliſſima, quia cum ipſa quantum ſan-* " *guinis*

Botallus de venæ ſectione, c. 7. *Maſſarias* de Peſt. l. 1. *Roderic. a Fonſeca* in append. ad *Iacchin.* de febr. p. 354: *Septal.* de peſt. l. 5. c. 14. *Forreſtus* Obſ. l. 6. obſ. 17. *C. Hofmann.* Anti Fernel. lemm. 64. *Proſper Alpin.* de medic. Ægyptior. l. 2. c. 7. p. 54. *Proſper. Alpin.* medic. meth. l. 5. c. 8.

c guinis volumus, evacuamus, ſine virium magna jactura
c (quod e longinquis partibus educatur) ſine violentia, &
c quod maxime in hiſce febribus videtur deſiderandum,
c quoniam ex ea evacuatione a ſupernis partibus adinfer-
c nas fiat revulſio: Unde mirum non eſt, ſi nos ſæpius
c in hiſce ægrotis vigilias, vel dolorem capitis, vel deli-
c rium, vel ſurditatem, vel aliud ſymptoma ſimile con-
c tinuo ſublatum viderimus, præſertimque ſi copioſa fa-
c cta fuerit evacuatio. De hac Oribaſius ita ſcripſit:
In lib. 7. c. 20. *c Et ſane dum peſtilentia vehemens Aſiam deprehendiſ-*
c ſet, multoſque perdidiſſet, meque etiam morbus attigiſ-
c ſet, ſecunda morbi die remiſſione febris facta, crus
c ſcarificavi, duaſque libras ſanguinis detraxi, hacque
c de cauſa periculum vitavi. In pueris & infantibus in
c quibus una cum peſtilenti febre vel exanthemata vel
c variolæ apparuerint, perpetuo ſummam utilitatem ab
c hac evacuatione ſubſecutam vidimus; qua Ægyptii
c Arabeſque nullum utilius præſidium in hiſce febribus
c eſſe longa experientia cognoverunt. Not all this can either *juſtifie* or excuſe a *Galeniſt* unto theſe *Helmontians:* I add the opinion of *Eraſtus* who lived in *Germany*, which *Climate* and *Nation* may ſeem to correſpond better with the *Engliſh*; after *he* had given his reaſons for *Phlebotomy* adminiſtred in the *beginning*, in *plethorick bodies*, and where nothing doth *contrajudicate*, eſpecially in ſuch as were uſed to *bleed*, or had any ſanguinary evacuation at the noſe or other parts, ſtopped on a ſudden: and after he had refuted the Arguments of ſuch as would cure the *Peſt* in his time with *Alexipharmacs* and ſweating only; he adds,
Th. Eraſtus epiſt. 25. *c c Equidem una conſuetudo fere præſtare videtur, ut*
c noſtris hominibus venæ ſectio in hoc morbo minus no-
c cere videatur. In hac peſte prorſus multi ex ruſticis
c vicinorum pagorum nullo alio remedio affugerunt. I might cite the judgment of many more in *this caſe*, as *Rondeletius*, *Mercatus*, *Trincavellus*, *Jo. Coſtæus*, *Altomanus*, *Pereda*, *Andernacus*, *Sarracenus*, *Maſſa*, *Mongius*,

Mongius, *Paſchalius*, *Mercurialis*, *Zacutus Luſitanus*, *Bayrus*, *Carolus Valeſius du Bourgdieu*, *Joel*, *Thevartius* (upon *Ballonius*'s Epidemia p. 50, 51.) *Hieronymus Rubeus* upon *Celſus*: Of the Ancients *Aetius*, *Avicenna*, *Avenzoar*, and that Latine *Hippocrates*. *C. Celſus* who particularly ſayes, *ſi vires ſinunt*, *ſanguinem mittere optimum eſt*; *præcipueque ſi cum ardore febris eſt*. But I conclude with *this aſſertion*, that in the Controverſie about *Phlebotomy in the Plague*, the number of them that *defend it* exceeds that of thoſe which *oppoſe it*, and their *learning*, *judgment*, *practiſe*, the *reaſons*, the *Experiments* they alledge at leaſt, *equals* what their *Adverſaries* can pretend unto: Some *Arabians* have *adviſed* in the beginning of the *Plague* (before the diſeaſe hath impaired their ſtrength) that the infected ſhould bleed even *until they ſwooned*: And *Platerus* informs me, that ſome having purſued that counſel avow that they have *cured many*, and therefore diſlike all *minute Phlebotomy* in compariſon of that which is *ſo copious*: thus *Bayrus* in his Treatiſe of the *Peſt* commands, that if the Patient be *robuſt*, *plethorick*, and the *peſtilential Feaver* be accompanied with a *violent putrid Feaver*, he *bleed largely*. But to deal *candidly* in *this affair*, I do think that of the *Germans* the moſt are averſe from Blood-letting in the Plague, and depend upon *Sudorifics*.

Citantur ab *Isbrando a Diemerbrook* de peſt l. 3. c. 3. §. 1.

C. Celſ. Medicin l. 3, c 7.

Cæterum in contrariam ſententiam abeunt complures alii, iidemque doctiſſimi Medici, docentes omnino ſecandam eſſe venam, nec minores paucioreſve adducunt felices ſucceſſus. *Hieron. Rubeus* in *C. Celſum*. l. 3. c 7. p. 140.

Maſſarius de Peſt. l. 2. (inter opera) p. 531.

F. Platerus de febr. (inter opera) p. 161.

Becauſe our *Helmontian* doth ſo opiniater it about the *Plague*, and would reduce all *Feavers* (almoſt *all diſeaſes* to be cured like it) and inſults over the *Galeniſts* for their ignorance in the *cure*, and upbraids *them* with their *ill ſucceſs* in that *malady*, I ſhall briefly repreſent ſome of the *reaſons* of their evil ſucceſs; and the *arguments* they urge againſt *ſweating* in all

Peſts,

Peſts, in the *beginning*, and *proceſs* of the *cure*; as alſo ſum up their *practiſe* about *Phlebotomy*.

When I conſider the *general deſolation* which the *Plague* hath made in all parts of *Europe*, notwithſtanding the various wayes uſed for the *cure* thereof, and that *Germany* and the *Netherlands* can no more boaſt of an **infallible cure**, no nor of a better ſucceſs than *Florence*, *Venice*, *Rome*, *Naples*, *Paris*, or *Sevill*, methinks it is apparent that the *recommendation* of *Medicaments* or *Methods of curing* in the *Plague* ariſeth from the obſervation that **ſome** by the *happy uſe* of *ſuch a courſe*, or ſuch a *Medicament*, have (perhaps amidſt *dangerous* and ſeemingly *deadly* ſymptomes) *been recovered*: And herein *Septalius*, and *Maſſarias*, and others, ſay as much for *themſelves*, as *Mindererus*, or *Sennertus*: And what *Celſus* ſaith of *Hippocrates*, *Herophilus* and *Aſclepiades*; I cannot but call to mind when I reflect on the *ſeveral Methods of Phyſick* endeared unto us by *judicious Practitioners*: **Si rationes ſequi velimus, omnium poſſe videri non improbabiles: ſi curationes, ab omnibus his ægros perductos eſſe ad ſanitatem.** So juſt I am to thoſe *excellent Practitioners*: It is certain that in *Phyſick* we do oftentimes commit the Fallacy of *non cauſa pro cauſa*, and attribute thoſe *effects* to *one Medicament*, or *Method*, which either did but *accidentally* enſue *thereon*, it contributes *nothing to the effect* (but only happening to be inſiſted on *at* or *before the time* that the *Phœnomenon* diſcovered it ſelf) or only *removing* ſomething that hindered the *natural production of the effect*, or only acting as a *partial cauſe* therein, or meerly *ſtrengthening* or making room for **nature** that the *effect* might more *eaſily* reſult. Thus we *directly* yield the glory of *one* or *more ſucceſsful cures* to a wrong *original*, and delude *our ſelves* and others not only with *vain hopes* in the *remedy* or *method*, but with new *Hypotheſis* raiſed upon *theſe frail foundations*, and with the

C. Celſus in pref. Medicinæ.

the *same levity* reject the *Medicaments* and *Methods of others*, with which we *celebrate our own*; nay oftentimes *with more*; for those *foundations* are most *sure* which are laid by the most men, if they be *judicious* and *observing*, and have endured the test of *more ages* and *tryals*. If *presumption* and *arrogance* could have *entombed the Pest*, the *most insolent* but *worst of Physicians*, that is *Van Helmont* had secured man-kind against its *ill effects*: and what man could have *dyed*, or languished under the *Gout*, or other *Chronical distempers*, if the *Rhodomontades* of *Paracelsus*, *Penaltus*, *Severinus Danus*, had contained any *solidity*? But *experience* hath shewed us that we have only *exchanged*, not amended *our practise*, the *Tinctures*, the *Essences*, the *Elixirs*, however graduated, or how *gloriously* soever *denominated*, do not exempt us from that condition humane nature is subjected unto; the general intentions of curing *cito*, *tuto*, *jucunde* are old: the *performance* now answers not the *pretenses*: the *Athanasia*, *Jucunda*, *Mysterium*, *Ambrosia* (of which you may read in *Galen*) If I were to chuse my *Medicaments* by the *sound they make*, would seem as *good* as the *Anima Auri*, *Tinctura polyaceia*, or *Pulvis pestifugus*; and *better* than the *Alexistomachon*, for that like Αλεξιφάρμακον, Αλεξίκακος, Αλεξιπύρετος, would affrighten *me*, as if it were a Medicine to drive away a mans stomach. And if I were to *word my discourse* I would more willingly use a *known tongue*, than an *unknown*, and *write Secretary* rather than the *Universal Character*: If I cannot acquire *knowledge* above others, there is more of *vanity* than *glory* in the *ostentation* of a *new-fashioned ignorance*. I write this because I am convinced, because I do not believe that there is any thing more *intelligible* in the *modish* word venome, then in the profound, sordid or superlative, putrefaction wherein the *Galenists* placed the Pest: If such a *putridity* be *unimaginable* (which yet is but

graduated above what we see, and unto which 'tis *evident* that diſeaſes ſometimes *gradatim* do arrive) it is certain that there is no ſuch thing as the *Arſenical* or *Napelline poyſon* in the Peſt; but ſomewhat forſooth *Analogous* thereunto, as *Mindererus* and *Sennertus* aſſure us: and here we are put upon *Gradations* again by which *Ceruſſe* and *Lithargyre*, *Napellus* and *Tithymal*, *Cantharides* and *Dipſas* are to be *tranſmuted* into, or graduated up to *Arſenic*. Moſt aſſuredly in *this Age* the *Chimæras* have exchanged their *paſture*, and being *cloyed* or *ſtarved* with feeding upon the Second intentions, they are now *luxuriouſly dieted* with Metaphors and Similitudes. I would not therefore have this *following diſcourſe* to be conſtrued as an *Apology* for the *failures of the Galeniſts*, but of all *judicious Practitioners*, even of *different principles*, who intermeddle with the *Plague*.

Mindererus de peſt. c. 3.

The firſt reaſon of their *miſcarriage*, is the *difficulty* or rather *impoſſibility* of diſcovering of the *Plague* oftentimes in its *firſt approach*, and ſometimes the *diſeaſe continues* and makes a progreſs *hopeful* and *promiſing* for ſeveral dayes: and then manifeſts it ſelf in the *ſudden death of the Patient*: of the *truth* hereof I need no Inſtances: the only care a *Practitioner* can ſhew is (after that *frequent Funerals* have informed him of an *approaching* or *raging Peſt*) to tend his *Patients* whatever the *diſtemper* be (*little* or *great*) as if it were the *Plague*: and yet that this *ſuppoſition* is *fallacious*, I can demonſtrate out of the Hiſtories of *ſeveral Plagues*, particularly that of *Vicenza*, and *Breda*. Here then our *Phyſician* is no more to be *blamed*, than he is for not being an Angel, or a Deity.

Sennert. de febr l. 4. c. 1.

Anton Beniuenius obſ. Medicin. c. 54. H. Florentius in notis ad P. Paare de peſt. p. 154, 155.

Another reaſon is, that the *ſick parties* do not come to our *Practitioner* upon the *firſt* and *ſmalleſt ſenſe* of the *diſeaſe*; for after the *Peſt* hath ſeiſed upon them a

few

few hours (*eight* or *twelve* hours) *Sennertus* himself could not cure one in an hundred: and of this *Erastus* complains (who was for *bleeding*) that *most that died* came not unto *him* till that the *Plague* had too far seised their spirits, and debilitated them so as to render *all means ineffectual*, though he tryed *Sudorifics*, and complyed with all *Hypotheses* in his practise. I must here note that the diversity of *Plagues*, as to their *nature*, and *continuance*, makes a greater latitude in the *opportunity* or *timing of Medicines*, than to restrain it to *eight* or *ten hours*; but this cannot be known till the *Plague* hath lasted some while.

Sennertus de febr. l. 4. c. 6.

Erastus ep. 25. p. 90.

A third reason is the great difference betwixt the Nature of *one Plague* and *another*, so that neither *one Method* nor the *same Medicaments* will serve in all *Pests*, no nor in *any two* hardly: besides the particular *diversification* which the *Pest* receives according to *idiosyncrasy* and constitution of *each infected person*. And for this *reason* Nicolaus Ellain in his Treatise of the *Plague* (commented upon by the renowned *Guido Patin*) refused to write down a special cure of the *Pest* in that book. "*Quantum ad curationem spectat,* "*eam attingere nolui, quia periculosissimum est ex solis* "*universalibus regulis curationem instituere, idemque* "*calopodium singulis quibusque adaptare. Juris perito-* "*rum effatum est*, Theorias generales non informare "animum practicum, qui consistit in singularibus. *Si* "*hæc propositio in* jure *vera existit, potiorem locum in* "Medicina *habere debet, in affectu presertim adeo anomalo* "*atque insolenti, cujus ut Protei, nunquam facies eadem* "*est. Nulla enim pestis alteri similis est, nisi in uno,* "*quod scilicet ea correpti maximam partem intereant.* "*Constans opinio est, tot fere species morborum pestilenti-* "*um esse, quot annorum, quibus in vulgus grassantur. Va-* "*rianda proinde curatio ex affectus, causarum, symptoma-* "*tumque varietate: ratioque habenda temporis, regionis,*

N. Ellain de pest. apud *Guibert* Med. Offic. p. 533.

'sexus, ætatis, temperamenti, peculiarisque cujusque na-'turæ (quam Græci idiosyncrasiam vocant) plurium-'que aliarum conditionum a Medico expendendarum. 'Insignis igitur abusus foret in peste curanda eadem uti 'Methodo. i. e. As for the *cure of the Plague*, I would not intermeddle with it; becauſe it is a moſt dangerous thing to form a *particular practiſe* out of *general rules alone*, and as it were *to work all peoples ſhooes upon the ſame laſt*. It is a *Maxime* amongſt the Lawyers, that *General Theories do not accompliſh a Practitioner, whoſe buſineſs lies in particular and promiſcuous Caſes*. If this be true in *Law*, I am ſure it ought to hold good in *Phyſick*, eſpecially in a diſeaſe ſo *anomalous* and ſo *ſeldom happening*, as *this is*, and whoſe *Type* is as *changeable* as that of *Proteus*, never *exactly* the ſame. For no *Peſt* ever was like unto the other *perfectly*, except it were in this one qualification, *that moſt that are infected dye thereof*. It is a conſtant opinion in many, that there *hath been*, and *alwayes will be* almoſt as *many ſorts of Peſts, as there have been, or can be Peſts*: And therefore the *cure* thereof muſt be *varied* according as the *diſeaſe*, its *cauſes*, and *ſymptomes* vary: and particular regard muſt be had to the *ſeaſon* and courſe of the *year*, the *countrey*, the *ſex*, the *age*, the *temperament*, and the *individual conſtitutions* of perſons, and many other circumſtances which a judicious *Phyſician* muſt conſider. Wherefore it would ſeem an *abuſe* and *impoſture* to preſcribe or follow in *every Peſt* the ſame *Method*. The truth of which *Aſſertion* is ſo *univerſally* aſſented unto, that *Mindererus* doth caution us diligently to attend unto the *courſe* and *ſymptomes* of the *Plague*, and to vary our *Method* and *Medicaments* accordingly, and tells us that in *individual* perſons (and not only in the *Plague* it ſelf) we ſhall find reaſon to gueſs that the *peſtilential poyſon* admits of an *unexpreſſible diſcrepancy* and *variety*; And partly from its *native variety*, partly from *concurrent circumſtances* in,

With him agrees *Gerardus Columba* de febr. peſtil. c. 24. p. 253.

Mindererus de peſt. c. 3.

in the *Patient*, and *Ambient*, &c. and combination with ſundry humours and intire commixing with them, it grows up and is improved into *new ſorts of venome*. And from hence, *he ſaith*, ariſeth a grand difference in the *cure* as well as *effects* of each *Peſt*, ſo that a multitude of *tryals* muſt be *circumſpectly* made, the *motion of Nature* in the recovery of the Patient obſerved, and many *die*, or *involuntarily*, yet *unavoidably*, be diſpatch'd, before the right *Method* can be known. *Hoc enim in incognitis, uſu perſæpe evenit, ut non niſi aliorum damno ſapiamus, & ex complurium ſtrage quos morbus perdidit cæteros ſervare diſcamus; nihil interim laudis Medica facultate ab hoc amittente, utpote quæ plus ſtudii in incertis obſervandis, quam in lucidis jam & perſpectis malis, commodo conſilio amovendis removendiſque ſollicita impendit; etenim & Magiſtratus ad occultum furem deprehendendum debita adhibens media, non minus ſuo officio fungitur, quam ſi hunc ipſum comprehenſum, capite plecti aut morte multari præceperit.* Since then it is manifeſt that there is ſo great a variety *in general* amongſt *Plagues*, and ſo great a *diſcrepancy* in *particular Plagues*, ariſing from *individual conſtitutions* and *other circumſtances*, ſince the *different motions* of Nature are ſuch, that ſometimes it is terminated happily by *ſweat*, ſometimes by *ſtool*, ſometimes by *urine*, or an *hæmorhagy*. Since it is a *diſeaſe* that ſo *ſeldome happens* (eſpecially here *amongſt us*) that 'tis impoſſible for *any man* to acquire a *practical dexterity* in *knowing*, or *curing* it: there is not any *intelligent* perſon will condemn the *Galeniſts*, or other *prudent Phyſitians* for ignorance; but rather deplore the *misfortune* of *Man-kind* which is ſubjected to ſo *monſtrous* and *pernicious* a *malady* as this *is*; and by a *pious* and *penitent* life rather ſtudy to *divert the Divine judgment*, than to *depend upon what is Humane*.

Theſe diſcourſes will ſatisfie any man of the *vanity* of thoſe pretences of an *Univerſal Medicine* for *all Plagues*; or of acquiring any *ſuperlative skill* by the diſſecting of one infected Body, or feeling one ſort of Plague twice or thrice; whereas not only each *Peſt* differs *in ſpecie*, but often *in individuo*: and *undoubtedly*, according as the *venome*, and *venenate ſymptomes* differ, ſo would the ſeveral *bodies* if diſſected.

As to the *reaſons* why the *Galeniſts* do not ſuſpend the *cure* of the *Peſt* intirely upon *Diaphoreticks*, and repeated *Sudorifics*, I find that *they* do urge *theſe*.

They do conceive that a *Phyſician* is obliged to be the *Aſſiſtant of Nature* in all diſeaſes, *except it manifeſtly appear that ſhe acteth irregularly*, or by way of ſuch an *irritation*, as to comply therewith were to deſtroy the *Patient*: they know what *their Method* obligeth them unto; and what *neceſſity* doth often put *them* upon: that *ſome diſeaſes* are cured with *more facility* than *others*; that 'tis the nature of ſome diſeaſes not to be *cured* at the *ſame time*, nor in the *ſame manner*: that as men are oftentimes forced *to make the beſt of a bad market*, ſo in *ſome indiſpoſitions* they know *what they deſire*, but know not *how to effect it*, but by *means extraordinary*, and by a greater *difference* to the *diſtemper* than it is their *inclination* to ſubmit unto: 'tis not *ignorance* and *folly*, nor the *want of generous Medicaments*, which makes them *comply*, but a *tenderneſs of the lives of the ſick*, and the diſcharge of a *good conſcience*; which *laſt* obligeth *him* alwayes to the *ſafeſt* way, and not to follow either *doubtful* and *queſtionable opinions* in *Phyſick* (which may paſs for *probable*, if that be *ſuch* againſt *which* it is *one thouſand to one* that it is falſe) or to *preſcribe Medicaments* which the *rule*

Scire enim quid fieri oporteat, magna res non eſt, ſed quibus rationibus illud efficias, id vero arduum. *Galen. 6. m. m. c. 2.*

P. Zacchias Qu. Medico-legal. l. 6. tit. 1. qu. 7. §. 2. id ibid. §. 7, 8

rules of Art and *Experience* do not *juſtifie*. Wherefore *they* do imagine that a *Phyſician* ought to *imitate Nature* when *ſhe does well* (and well *ſhe* does, when *ſhe* cures the diſeaſe) and ſince *Nature* doth in ſeveral Plagues acquit her ſelf ſundry wayes, that therefore they ought not to confine themſelves to one: Particularly, ſince ſome Plagues have been *cured* by *ſpontaneous* (*a*) *Hæmorrhagyes at the noſe*, others by *Stools*, 'tis moſt *irrationable* to expect that *any* ſhould do *otherwiſe* in ſo dangerous a *malady*, than to conſider the *ultroneous emotions* thereof, and *accordingly* to demean himſelf.

(a) *Eraſtus* epiſt. 25 p. 97. c. 2. & *Thevart.* in Schol. ad *Ballon.* Epidem. p. 50, 51. *Schenkium* (ex *Parao*) l. 6. p. 770.

Secondly: Seeing that (*b*) *all Sweats* in the *beginning* of a diſeaſe are rather *bad*, than *good*: ſince in the *Plague* few or none are ever freed (*c*) by *ſpontaneous Sweats*: ſince Nature takes (*d*) *another courſe* by diſcharging it ſelf into the *glandules* of the *Ears*, *Arm-pits*, and *Groin*: They do not think that they ought to purſue that *Method*. "*Ex his arbitror, pa-*
"*tet, Sudores ſtatim ab initio febris hujus per vim adeo*
"*calidorum medicamentorum evocatos, non tam utiles*
"*eſſe quam aliqui putant. Siquidem ſpiritus evacuan-*
"*tur, vires dejiciuntur, ſanguis agitatur, turbatur, ma-*
"*giſque acuitur febris, quod ſubtile eſt in ſanguine ex-*
"*cernitur, ſicque craſſior intus relicta materia citius &*
"*facilius interficit. Idcirco magis videtur factum &*
"*conſilium eorum approbandum, qui ab his medicinis ca-*
"*ſtidis abſtinent, ſive ſudent ægri ab initio, ſive non*
"*ſudent. Certum namque eſt, Sudorem ſponte ſub ini-*
"*tium morbi prodeuntem, diaphoreticum & ſymptomati-*
"*cum, non laudabilem & criticum eſſe.*

(b) *Hippocr.* ſect. 4. *Aphor.* 36, 37, & 42. *Eraſt* ep. 25. p. 99.
(c) *Eraſt.* epiſt. 25. p. 97 c. 2.
(d) id. ibid. p. 98. *Eraſt.* ubi ſupra. p. 99.

Thirdly they argue; that ſince there is ſuch danger leaſt the Patient infected ſhould dye *for want of ſtrength* before the diſeaſe be *cured*, and that above all others the *vital* indication to *preſerve the ſtrength* ought

ought to be moſt prevalent with a *Phyſician*, and regulate him in the adminiſtring of his *remedies*: ſince the regard *hereunto* makes them to quit their *uſual courſe* of dyet, and even *compel* their Patients to eat *plentifully*, and *drink wine* ('tis no *Helmontian* Propoſal, but tranſmitted to as from *Antiquity*) they conceive it not fit in the beginning of the *Plague* to debilitate the ſick with a *violent* and *tedious Sweat* (perhaps to be reiterated twice or thrice in twenty four hours) whereby the *ſpirits* will be *extreamly* diſſipated (much more than in *Phlebotomy*) the *humours* good and bad promiſcuouſly evacuated, and the *blood* and *groſſer humours* (which are not exhauſted by *Sweat*, and in which commonly the *Peſt* is ſeated, as is manifeſt from the *Botches* and *Carbuncles*) continue infected ſtill. *Sane ſpiritus per ſudores affatim & copioſe vacuari ſatis indicant proſtratæ afflictæque vires poſt longum ſudorem: Craſſe & inquinati ſanguinis nihil aut particulam exiguam educi, probant accidentia, quæ fere omnia fiunt poſt ſuderem deteriora.*

Ilsbr. a Diembrook de peſt. l. 3 c. 2. § 1. 6 & l. 2. c. 6. § 14.

C. Celſus l. 3. c. 7.

Eraſt. ep. 25. p. 97.

Fourthly, Though *they* do very much commend the *intentions* of ſuch as would *preſently* and without *any delay* expel the *morbific poyſon*; yet they conceive that where the *Plague* ariſeth from *previous evil humours* congeſted in the *body* by an *unſeaſonable year*, *evil diet*, or the like, that then the caſe differs much from what it is when it is contracted by a *forreign contagion*; and therefore whatever reaſons may be alledged in the *laſt caſe*, they cannot admit the *Method* as univerſal: they do apprehend that in the *firſt caſe* the *putridity* is *incorporated* and become as it were *innate* to the *maſs* of *blood*, and is no more to be eliminated by *Sweat*, then *muſtineſs* in drink is exterminated by its *working out the yeaſt*: Beſides, they do not perceive that the *ſick* receive *ſuch benefit* when Nature diſcharges it ſelf into the *Skin* by the *Spots*, or *Tokens*, that

that they ſhould *imitate* that operation by *promoting ſweat*: they are afraid that potent *ſweats* may divert *Nature* from her *uſual* and *intended courſe* of diſcharging it ſelf into the *Glandules*, and whileſt a *double evacuation* is purpoſed by the *Phyſician*, the *Patient* may find the benefit of *neither*, the *ſweat* being ſo powerful as to diſturb that *other motion*; and the *humours* in which the *venome* is incorporated being ſo *groſs* (why elſe ſhould *Nature* never take the more *facile* and *expedite* way of the *Skin*, but the more *difficult* of the *Glandules*?) as not to be exonerated in *that manner*.

Laſtly, Suppoſing the *Plague* to be a *venenate diſeaſe* they do not conceive that all *poyſons* are to be cured *one way*, and that by *ſweat*, eſpecially *as ſoon as ever they are taken*: much more if they be of a *Septic* nature: they do not believe *ſweating* to be the *remedy* for *Arſenic*, or *Lapis infernalis*, ſhould any take them. But if it were, yet *ſometimes* there is ſuch a *plethoric habit of body*, and the *veins* are ſo diſtended either *naturally* or through the *febrile agitation of humours*, that 'tis *imprudent* and *dangerous* to *promote ſweat*, till *Phlebotomy* be premiſed: for thereby the febrile heat will be mitigated, obſtructions removed, the blood *ventilated* and capable of a further *rarefaction* in order to *ſweat*, and *tranſpiration* promoted, and Nature inclined to ſweat; for bleeding doth not draw in the humours, or *poyſon*, but carries it out to the *circumference*, as *experience* doth teſtifie, and conſequently is rather *ſubſervient* unto, than *oppoſite* to the *indication* that others go upon.

Theſe are the moſt *ſolid Objections* I have met with upon the *ſubject*: in which whatever is ſuggeſted is not ſo to be underſtood, as if the *Galeniſts* did not know that their *Adverſaries* uſe or pretend to uſe *Cor-*

dial and *Alexipharmacal Diaphoretick*: as on the contrary none but this *Baconical* ——— G. T. would ſuppoſe, that when a *Galeniſt* ſpeaks of *Phlebotomy*, that he intends to uſe nothing elſe. Thoſe *judicious perſons* do conſider the variety of *Peſts*, that ſome of them are by *forreign contagion*, and ſeiſe upon *healthy bodies*: in theſe they are willing that the *venome* be eliminated preſently by *ſweat*, except the *Plethoric* habit make it neceſſary to *bleed firſt*, and then they *ſweat them* afterwards immediately: taking all *imaginable* care for to preſerve their ſtrength: they alſo know that in ſuch times as the *Patients* have been uſed to an *ill diet*, and debilitated through poverty and miſery, that in ſuch caſes even *Galen* would not allow *bleeding*: for how requiſite ſoever it may be for *the diſeaſe*, ſuch perſons cannot bear it: They know that *ſome Plagues* are attended with *little* or no *Feaver*, yet attended with *ſymptomes* dangerous and mortal; in theſe caſes they are for *Cordial-Alexipharmacal Diaphoreticks*, and promote *ſweat* as earneſtly as any *Helmontian*: in others the *Plague* is attended with a *Synochus* and *putrid Feaver*, in theſe they *divide* their cures, and regard both the *Feaver* and the *peſtilential venome*, &c. according as the ſtrength of the Patient will bear (they conſider not only his *preſent* but *future* ſtrength) they proceed to *Phlebotomy*: ſometimes they obſerve the *Plague* to be ſo gentle, that the infected can *go up and down* and feels *little* or *no indiſpoſition* in himſelf: in this caſe they only continue the *motion of Nature* by mild *Alexipharmaca*, that the *Botch* or *Carbuncle* do not *ſtrike in* again, and perform the reſt by a *ſollicitous Chirurgery*. In fine, as there is nothing more *rational* than all their *ſolicitude* in cures: ſo they know that in ſo *deſperate a diſeaſe*, there is no courſe to be left unattempted: the way by *Alexipharmaca* and *Sudorifics* come from *them*, and is properly *theirs*: but they urge *no* method generally in *any diſeaſe* almoſt; knowing

that

that the *ſame diſtemper* may be cured *ſeveral wayes* by men proceeding upon *contrary indications*, and yet the Art not violated: and in the *Plague*, as they know the great *variety* thereof *in ſpecie & individuis*, ſo their *directions* leave *us* in a great *latitude* upon *emergencies*: They underſtand that ſaying of *Celſus*: Nam quo celerius ejuſmodi tempeſtates corripiunt, eo maturius auxilia, etiam cum quadam temeritate, rapienda ſunt. As alſo that, Cum eadem omnibus convenire non poſſint, fere quos ratio non reſtituit, temeritas adjuvat. To conclude, if there be any thing that requires a *dexterous Phyſician*, 'tis *this diſeaſe*: And if any thing can make him *ſuch*, 'tis the diligent reading and underſtanding of the *Galeniſts*; who have in this caſe *tranſcended themſelves*, and repleniſhed their *diſcourſes* with ſo *prudent cautions*, ſuch excellent *obſervations*, and *experiments*, that may raiſe admiration in all that are *converſant therein*, and ſatisfie the World, that thoſe *notional men*, following the *ancient Methods of Science*, have out-done all that ever the *ignorant raſh Experimentators of this Age* could imagine. I have a *long time* deſigned a Collection of all the choice *Experimental Writers* upon *Epidemical diſeaſes*, whether *peſtilential*, or *not*; together with the *Hiſtories* of diſeaſes that are otherwiſe of a *facile cure*, and are changed by the *mixture of a peſtilential venome*: for as there is nothing more *dangerous* and *intricate* than *ſuch diſeaſes*, ſo there is nothing wherein the generality of *Phyſicians* are leſs acquainted: 'tis an effect of the *novelty* and *curioſity* after *knick-knacks* which infatuates *this Generation*, and will ruine the *next*: there is ſo much of *pedantry* in *reading*, 'tis ſo much more *pleaſant*, and divertive to *talk of*, to make Obſervations about *freezing*, then to read over *Galen de typis*, that I do not wonder to find *D. M.* not to underſtand what the *Type of a diſeaſe* is: but I do wonder how he durſt

Hippocrat. Epidem. l. 6. ſect. 7. cum notis *Valleſii*, p. 7 8, 739.

C. Celſus medicin. l. 3 c. 7. de febr. peſt.

Id, ibid. c. 9.

say I was **intollerably ignorant in the Rudiments of Phyſick**, for ſpeaking as *Galen*, and the beſt *Phyſicians* do: I may accommodate to theſe *impudent Scholaſts* that ſaying of *Hippocrates*. **They that are ſick, and do not know themſelves to be ſo, have an imbecillity in their Intellectuals.** Such men are poſſeſſed with a deſire to *prepare their own Medicaments*, **contrary to Law**: and neglect the ſtudy of *neceſſary* and *uſeful* Books in *their Profeſſion*, which is **contrary to all Reaſon**: 'Tis eaſie to foreſee that the *next Age* will ſcarce be furniſhed with a wiſe *Stateſman*, *Phyſician*, or *Civilian*; and perhaps ſcarce yield an accompliſhed **Divine**, or an *intelligent Sheriffe*, or **Juſtice of Peace**. And this evil is become *remedileſs*, by reaſon that the contempt of *Univerſity-learning*, and *neglect of ſtudying*, hath ſo decayed the *Trade* of *Book-ſelling*, that no man that is *deſirous* can furniſh up a *Library*; which I find too true, being not able to repair the *loſs* of a choice Collection of *Phyſick-books*, which were conſumed by the fire at *London*.

Having thus explained the nature of the *Peſt*, I return to the Argument of——*G. T.* which gave occaſion thereunto. That the *Peſt* is neither a **Feaver** *καθ' ἑαυτὸν*, nor indeed a **Feaver** at all, I have demonſtrated: That there are ſome *Peſts* in which *Phlebotomy* may be uſed, I have alſo made evident: As alſo that it was not without **Singular prudence** that the *excellent* and *learned* Phyſician Doctor **Willis** did pronounce that *Phlebotomy was ſeldome, and not without great caution, to be practiſed in the Peſt: becauſe the blood* **being too much exhauſted**, *and the veſſels ſubſideing, the neceſſary inclination to tranſpire and ſweat, is not ſo eaſie to be promoted, or continued.* I have likewiſe evinced that the *Peſt* doth not conſiſt *properly* in a *Poyſon*, but in ſomewhat *Analogous* thereunto: and conſequently ſince *ſimilitudes* are not *identified*,

De febr. p. 235

tifi'd, 'tis fooliſhly argued by ——*G. T.* that *becauſe upon the taking of Poyſon Phlebotomy is uſeleſs:* therefore *it is ſo in the Peſt.* But neither is the *antecedent* true alwayes; as any man acquainted with the *Medicinal Hiſtory of Poyſons* doth know: for although upon the *firſt taking*, they are to be attempted with *peculiar Antidotes*, yet if *afterwards* they produce a *Feaver* in the Patient, or if there be danger of it, *Phlebotomy* is both uſed and allowed, by the Authority of *Paulus*, *Avicenna*, and *Haly-Abbas* and other *eminent Phyſicians*: particularly by *J. Cæſar Claudinus* in his *Emperica rationalis* l. 6. ſect. 1. c. 1. It is alſo *perſpicuous* out of what I have ſaid, that 'tis *falſe* to ſay that *All Feavers, be they ill conditioned, or others, have any reſemblance with, or are to be cured like the* Peſt: much leſs is it true of moſt Maladies whatever. Whereas this *Impertinent* goes about to prove it thus: *Becauſe there is quiddam deleterium in them, or a certain venenoſity.* If he take *Quiddam deleterium* and a *certain venenoſity* for *one* and the *ſame thing*: it is moſt *falſe*: ſhew me the *effects* thereof ſuch as are *viſible* in the *Peſt*, and I may grant there is ſomewhat *Analogous*: but I cannot ſee any *ſuch thing*, nor that they need any ſuch *ſuch cure*: It is poſſible——*G. T.* may with his *Pepper-drops*, or *Eſſence* of *Ginger*, and ſuch like *hot Medicaments* drive out ſome *Puſtules* in the *Skin*, in moſt *Maladies* (and even where were none) but I ſhall not conclude *thence* that either the *indiſpoſition* was *venenate*, or that *he* did *impoyſon him*, though that be a facile thing to do where the ſame perſon acts the *Doctor* and *Apothecary*; and uſually done heretofore as any *School-boy* may know out of *Tacitus*: or Tully, pro Cluentio, where *two* are mentioned, the *one* the City-*Phyſician*, who was called *Medicus*; ſuch were retained by *Salary*, the other is termed *Pharmacopola circumforaneus*, that is a *Doctor* who kept *ſeveral Markets*, making and vending *his own*

Joſeph. Mancinus de ſec. venæ cubiti in febr. putr. malig. p. 141, 142.

C. Tacit. Annal. l. 4. & l. xii.

W. C. may learn what *Medicus circumforaneus* is out of *Menagius's Amanitat. jur. civil. c. 38.*

omn Medicaments, which gave him the opportunity of gratifying *Oppianicus* his *Mother in law*: a courteſie the other had oftentimes done for him before: I believe there were no *Apothecaries at that time in that place*, but in 1220, or 1221. when *Phyſick* was firſt made an *Univerſity-Faculty*, and *Doctors* thereof created in imitation of thoſe in *Theology*, then were the Profeſſion of *Phyſick*, and that of the *Apothecary* made diſtinct, and that with ſo much *caution*, that it is a queſtion amongſt the *Imperial Lawyers*, **Whether a Phyſician may have any manner of Contract with An Apothecary, though to drive on other Traffick than that of Pharmacy?** In the *Lombard-Chronicles* there are many caſes of *Princes* (and no doubt than *others*) by *Phyſicians*: there was one *Sedechias* in the dayes of *Charles* ſirnamed the *Bald*, in *France*: and in the reign of Queen *Elizabeth* one Doctor *Lopez*, and *Giulio*. If ſome mens *reading* extends not to *this knowledge*, I would have taught *D. M.* and *W. C. this* and *much more*, had not the *Artifice* and *intereſt* of ſome men debarred me from *publiſhing it*. If any man can ſhew me any **Diſpenſatory** made by any *European Phyſicians* (ſince there was ſo much as a **Graduated Doctor**) that was *previous* to the diſtinct Profeſſion of *Apothecaries*, I will own then (though it be a *certain untruth*) that the practiſe (I do not ſay **practiſing**) of the *Apothecary* in the **Quartane**, was contrary to the *rules of Phyſick*, and the caſe *well* propoſed by *D. M.* All men are at the *mercy* of ſuch as write *what they will*, and *defame* as they *pleaſe*, and permit not *others* to *vindicate themſelves*, nor undeceive the World. 'Tis *ungenerous* to pinnion a mans hands, and then *beat him*. In reference to that *Controverſie*, I add that the *Statutes* of the *Colledge* command the *Phyſicians* to ſend their *Bills* to an **honeſt Apothecary**: And our *Laws* make the *Colledge* Judges of all *Receipts*, as well as *Methods of Phyſick*: which

Lindenbrogius Codex legum Antiq. inter conſtitut. *Siculas.*

Stat. Colleg. Londin. Miſſ. in biblioth. Ognon.

Act

Act as it conforms with the *general practise* of *Europe*, ſo it is very *prudential*; for hereby proviſion is made not only againſt *noxious Medicaments* (and the *high prizes* of *Arcana*) but *illegitimate Methods of practiſe*, by which laſt it is as *eaſie* to deſtroy a man, as by *poyſon*, and more *privately*: How the deſigns of the *Experimentators* will conſiſt with *our Laws*, and be accommodated to *them*, I know not: I know a *Phyſician* may be *tryed* upon giving his own *Medicaments* if the Patient *miſcarry*; how he ſhall *defend* himſelf, I know not: I have not ſeen any *reaſon* alledged, that is likely to convert the *Magiſtrates* throughout *Europe* to permit it: or to gain a repeal of the two laſt *Edicts* in *Denmark* againſt it: 'Tis an *evil preſident* to diſpute againſt *wiſe Laws*: 'tis worſe to *act againſt them*: and what conſequences it will bring upon the Land, to ſee *one Profeſſion* retrench upon another, let the *Lawyers* judge: The beginner of this *Novelty*, the Lord *Bacon*, ſtopped not at *Natural Philoſophy*, but carried on his *humour* to attempt or *project a change of our Laws*. I do recommend it to the conſideration of our *Sages* in the Law, that if *Phyſick*, *Divinity* and other *Faculties* be overthrown by a company of **Wits**, whether it be *probable* that *they* ſhall long continue free from the attempts of the *Omniſcient*——

But I ſhall reſume the examination of the remaining *Arguments* of my Adverſary.

" Becauſe I often obſerve many ſquaring their " *Therapeutic* intentions according to the *Definition* of " the *Feaver*, indeavouring to cool thoſe that are in a " ſcorching heat, by breathing a vein, " let them know, that a *Feaver*, whoſe " *eſſential nature* is to be inquired into " for the *uſe of man*, is very errone- " ouſly defined **an Accident**: for a

Cannot an *Accident* be the *product* of a *fore-going cauſe*? Beſides, whoever *defined* a *Feaver* ſo as to make its *Genus* to be **An Accident**?

" *febrile*

'*febrile heat* is certainly the product of a foregoing 'Cauſe, which is *primarily* to be ſearched after, then 'whatſoever depends thereon will quickly va-'niſh.

'Now this cutting an hole in *venal* veſſels for the 'removing a bare Quality, is all one as if one ſhould 'lave out of the *Pot* ready to boil over a *ſpiritous*, or 'ſome *precious Liquor* therein contained, to the intent 'it may thereby be quailed, neglecting to withdraw 'the fire, the *impulſive occaſion* of the violent motion 'made therein. Do not they take the like abſurd 'courſe, who do think to *cool* the body in a *Feaver* by 'throwing away whole Porringers of the *Nectar of* '*life*, never looking after the ablation of the *Cauſo-*'*poietick* cauſe and *focular* matter ſited about the 'Stomach, which makes an *eſtuation* and *efferve-*'*ſcence* in all the other parts. That way of *frigidati-*'*on* which pillageth the vitals, increaſing the malady, 'only obliquely abating a tedious *quality*, is never to 'be approved by a Legitimate *Phyſitian*. He that 'will bring to a moderation the *finger* exceſſively *heat-*'*ed* from a *thorn* impacted therein, muſt extract the 'ſame, otherwiſe he will take a wrong courſe by the uſe 'of meer *frigefactives*. So he that will *poſitively re-*'*frigerate* in any preternatural *heat*, muſt eliminate that '*ſpinous*, *aculeate*, *acid*, *acrid* matter which goads the '*Archæus*, incenſing it that it becomes exorbitant, fret-'ting, raging, *Heautontimorumenos*, gauling it ſelf at 'the preſence of that which it abominates, never to be 'pacified till it be excluded, or ſome extraordinary '*Sedative* given (I mean not *Opium* vulgarly prepa-'red) which may *for a time* aſſwage its *fury* till it 'have leiſure to thruſt out the unwelcome gueſt.

I could wiſh my *Adverſary*, inſtead of conſulting the *Novum Organum* of the Lord *Bacon*, had been converſant in that more *ancient one* of Ariſtotle: he had not

not then committed so many errors in point of *Ratiocination*, as he now does, which renders his discourse *intricate*, *confused*, and oftentimes *impertinent*, to the great distraction of his *Reader*, and vexation of his *Antagonist*. He perpetually mistakes through an *Ignorantio Elenchi*: he never apprehends *what he opposeth*. That the *Galenists* do define a *Feaver* by a *preternatural heat diffused through the whole body*, is true: They are contented to call that a *Feaver*, which the *vulgar* does so, and accordingly to *define it*: Not but they distinguish in *Feavers* the *Material* and *Formal* cause thereof; as also the several *Efficients* thereof: and in their *Method of curing*, except necessity put them upon *another procedure*, they do *alwayes*, and are obliged to do so by the *Rules of their Art*, to remove the *Cause* of the *Feaver*: and this is notorious to all that understand the first *Elements of Physick*. They consider the *evident*, *occasional procatarctick* Causes: they consider the *Antecedent causes*, which though they are not the *immediate* and *conjunct Causes* of the *Feaver*, yet dispose unto it; and are of such *importance* as that they may often degenerate into *immediate* and *conjunct Causes*: and, which is more, in the *Cure* they do not only regard the *Cause* which gave birth unto, and produced the *Disease*, but that which doth *foment* and *continue* it, and that which may *produce* or *increase* it. *Censeri debet causa non quæ facit, aut fecit solum, sed & quæ faciet nisi quis obstet.* And although the curing of the *Disease*, or *Feaver*, be the *object* of their designs: yet *As all* wise men *consider by what means the ends they propose to themselves may be effected*, so do they deliberate *how* they shall effect their designs: and that is by removing the *Cause of the Malady*: But as in other designs it frequently happens, so here they often meet with *impediments*, which must be removed, before they can prosecute their intentions by direct means. Upon this account they are *forced* upon ma-

Valles. meth. med. l 3 c. 1.

ny *actions* which they confeſs are not immediately *conducive* to the *cure of a Feaver*, which yet they *purſue*, becauſe without doing ſo, the indiſpoſition either could *not be cured*, or not with ſuch *ſafety* as becomes *prudent perſons*. Few of them ever *bleed* that I know of *meerly* for *refrigeration*, and the extirpation of the *formal heat*, without regard to the *material cauſe* of it, which is to be *concocted* and ejected by Nature. Though *Phlebotomy* be but one operation, yet it produceth ſundry effects in the body, and in order *to each of them* is both indicated, and practiſed: For *it* evacuateth that *redundancy of blood*, which frequently occaſioneth diſeaſes, alwayes is apt to *degenerate* into a *vitious morbifick matter* during the *Feaver*, and by an *indirect* and *exorbitant motion* to afflict ſome or other *principal parts* to the great *danger*, if not *deſtruction* of the Patient: upon this account we do uſe *Phlebotomy* in *Feavers* ſometimes to diminiſh the *Plethora*, and ſo to prevent the violence of the ſucceeding *diſeaſe*, and *dangerous ſymptomes* that may inſue; and *then the veins are too much diſtended*, to *facilitate* and ſecure the operation of *ſubſequent Medicines* that are uſed to evacuate the *Antecedent Cauſe*, and to *maturate* and *expedite* the *continent morbifick cauſe*: Beſides, it *promotes tranſpiration* incredibly, gives a *new* motion to *thoſe humours* which together with the *blood* oppreſs and indanger the *internal* and *principal parts*, it *diverts* them from the *head*, and *draws them* from the *heart*, *lungs*, *ſtomach* and *bowels* into the *habit of the body*, whereby Nature being *alleviated* proſecutes her recovery by *maturation* and expulſion of the *peccant depraved matter*, deducing to its *proper ſtate* that which is *ſemi-putrid*, and not *irrecoverably vitiated*, and *ſeparating* firſt, then *exterminating* what is *incorrigible*: So the Patient recovers. Nor is there any thing more true than this, which every *Practitioner* may daily obſerve in his practiſe, that Of all the

the Medicaments which are used by Physitians, there is not any may compare for its efficacy and utility with Phlebotomy: so expedite, so facile, and so universal is it. The universality of its use appears herein, that it evacuates the redundant, it alters the exorbitant Fluxes of the peccant or deviating humours and blood: It relaxeth the vessels and pores of the body, and refrigerates the habit thereof: And therefore is so *absolutely necessary* in *putrid Feavers*, that though I do not say they are *incurable* without it, yet I pity the *languishing* condition of such as omit it, the *violence of the symptomes* being increased *thereby*, and the *cure procrastinated*, to the great *trouble* and *hazard* of the *sick*, and his great *detriment* afterwards; for you shall ordinarily meet with a slow *convalescence*, and the *blood* be so *depraved* by so *long* and *violent* an effervescence, that it becomes remediless, and degenerates into an *evil habit of body*, *Scorbute*, *Dropsie*, &c. Valles. Meth. med. l. 4, c. 2.

This being *premised*, (which is more clearly proved by *Experience* than *Reason*) I answer to *his* Argument, that *we* do not go about only to refrigerate the Patient, but to *concoct* and *eject* the *morbifick matter*: that we take the most befitting course to exterminate that *spinous offensive cause*: and as upon the *prick of a Thorn*, if part stick in the wound, and be buried therein, we proceed to *maturate* and bring to a *paculency* the *vitiated blood* and *humours* inherent in the part affected, and with the *suppurated matter* draw out the *fragment of the Thorn*; so we do in *Feavers*, (where the *depraved humours* are not so easily separated and extirpated, as in the *prick of a Thorn*) maturate and eject the *morbifick cause*, and thereby atchieve the *Cure*: And I do profess my self to concurre with the *Ancients* in their Opinion, that there is a

great *Analogy* betwixt the generation of the *Hypostasis* in the *Urine* after a *Feaver*, and the production of *purulent matter* in an *Apostimation*; and that *Feavers* are but a kind of *Abscesse* in the *mass of blood*: for the proof whereof I do remit my Reader to *Ballonius, de Hypostasi Urinarum*. Amongst the *Ancients* I find two wayes commonly practised to extinguish this *Febrile Heat*, by a course corresponding with the usual wayes of *extinguishing a fire*; which are κατ' μάρανσιν, by substracting the *fewel from it*: thus they did *Phlebotomise at once till the Patient did swoone*: the other κατ' ὄβεσιν, *by quenching it*: thus they *gave them cold* Water *to drink largely*, until the sick grew pale and fell into a *shivering*: this *last* was not practised till there were *manifest signs of concoction*: But 'tis observable that upon either of *these Medicaments*, they did expect that *happy issue*, that Nature thereupon should presently discharge it self by *sundry evacuations* of the morbifick matter: so that they did not thereby intend bare *resignation*, but the *extermination* of the *concocted febrile matter*.

Id autem ita esse aperte intelliges, considerans, quæ partibus, in quibus suppurationem molimur, contingunt. Ea enim alteratio simillimæ est concoctioni, quam in materia putridarum febrium expectamus, nisi omnino est eadem. *Valles*. Method. med. l. 4. c. 2.

Galen. meth. medend. l. 9.

And thus much may suffice in answer to *this Objection*.

The last *Objection* he makes is this, as I shall form *it*.

" The great *Indications* of the *Galenists* for *Phlebotomy*, are either *Evacuation* of the *redundant blood* in a *Plethora*: or, the *Revulsion* and direct pulling back of what is *in flux*, or *flowed* into any part already.

" But *neither* of these *Indications* are *valid*, and oblige them to *that practise*:

Therefore

'' Therefore the practise of *Phlebotomy* is not to be 'continued.

As to *Phlebotomy* in a *Plethorick* body, he thus explodes that: '' If by *plenitude* be meant an *excess of* p. 128.
'*pure blood*, I absolutely deny there is any such ζήτημα, 'or *indication* for *Phlebotomy*: for during the *good-* 'ness of this *juyce* there must needs be *perfect Sanity* 'arising from integrity of all the actions of the body, 'so that it may justly be reputed *madness* to go about 'to broach this Balsome of life, weakning Nature 'thereby, as long as there is health with abundance of 'strength. *Imprimis notandum* (saith *Van Helmont* in 'cap. de febr. p. 8.) *ut nunquam vires peccare possint* 'abundantia, *ne quidam in Methusalem: ita nec bonis* 'sanguis peccat minuitate, *eo quod vires vitales & san-* 'guis sint correlativa. i. e. We are to take special no- 'tice that too much strength can never be offensive to 'any, yea, not to *Methusalem*; no more can any one 'have *too much blood*, for as much as *vital strength* 'and *blood* are *correlatives*. Well then it is plain, that 'whatsoever sickness seems to indicate *Phlebotomy* up- p. 123.
'on the account of an ἀναπλήρωμα, *sanguineous super-* 'pletion, must needs come from an *apostate juyce* ge- 'nerated by vitious digestions, which be- 'ing hostile to life irritates the *Archæus* to 'frame the *Idæa* of a disease, not as it is 'meerly provoked by *nimiety* or *plurality*, 'but from the *pravity* of the matter: 'wherefore the case is altered now, and the 'ἔνδειξις, signification or demonstration of 'evacuating, doth in a strait line respect the 'Crnor, or *Cacochymy*, directing the *Artist* to 'reform, mundifie, and rid those impurities 'contained in the seemingly corrupted 'marred juyce, by proper means seque- 'string the *vile* from the *precious*, not to let

I would willingly know how this *Archæus* doth frame the Idæa of a *disease*? and what this *Idæa* of a *Feaver* is? to return G. T. his own words: Is it a *Substance*, or an *accident*? *Material* or *Immaterial*? That *it specificateth* the disease, must be granted: But the *notion* is *incomprehensible*: and this Scurvy Idea is more ridiculous than the Scurvy Qualities.

out

out indistinctly what comes next at randome to the furtive castration of the Eutony, lustiness, liveliness, and strength of the Patient, which is to be preferred before all motives whatsoever.

The *Analysis* & *Synthesis* of *inanimate bodies*, doth not teach the *Operatour* convincingly what may be done in those that are *Animate*.

"'Tis certainly known to those who are throughly versed in the *Analysis* and *Synthesis* of the parts of bodies, that *ebullition*, *æstuation*, *effervescence* of febrile *liquors* arising from a *pleonasme* of degenerate *Sal.* and *Sul.* &c. *as they would have it*, may be appeased and allayed by *Remedies* assisting the vitals to make separation, and afterwards an exclusion every way of what is reprobate, reserving what is acceptable. This being performed, there is no fear that a *plenitude* simply of it self can do any harm, for hereby soexpedite a course is taken, that the *overplus* is in a short time sent packing away by *vomiting*, *stool*, *urine*, *expectoration* and *sweat*: For this reason, considering what *strict abstinence* the Patient is put upon in a *Feaver*, 'tis very unlikely a *plenitude* should be of any *duration*. Is it not then greater *prudence* in a *Physician* to minorate what is superfluous by *safe*, *profitable* wayes of *secretion*, and *excretion*, still advancing the *principal Agent*, then for *that end* to give vent *indiscreetly* to what comes next without any *election*, incommodating, if not hazarding the loss of the *vital principles*. For believe it, *whosoever hath any great quantity of blood taken from him, either rues it for the present, or hereafter*: Let him that is *heterodox* prate what he will, alledging examples of those *sturdy*, *lusty bodies*, which have hereby received *immediate succour*; I can make good *by practise* (and challenge any one to come to that; otherwise let him forbear his Garrulity) whosoever is cured by a *Lancet* in this sort, is either prone to relapses, or to live more crazy in his younger or elder years, although for some short time he may not by reason of a robust ingrafted constitution be sensible of these inconveniences.

p. 124. How much *blood* doth *he* account to be a *great Quantity*? I do not know of any *Physician* that takes away such *great Quantities*, as to create *these dangers*.

Can you *make good* by practise, that *Phlebotomy* is the *cause* of these *subsequent evils*.

"As

As for *Phlebotomy* in order to *Revulsion*, he thus ex- p. 126.
plodes it. "Another pretended way for *sanguinisfi-*
"*on* is **Revulsion**, by which they say a violent *flux*
"of *morbifick liquor* into any noble parts, is intercept-
"ed: for this end they use the *Lancet* in a *Pleurisie*,
"*Peripneumony*, or any inward *inflammation*: But how
"far they erre herein, is well known to the *best Practi-*
"*tioners*: for although I confess they do sometimes
"in the beginning suppress, and as it were crush the
"aforesaid diseases, yet is it done *accidentally*, very *un-*
"*certainly*, rather by way of distraction of the Nature
"for the loss of its substantial treasure, than from
"any true *Revulsion* or direct pulling back of what is
"in *flux*, or already *flowed in*. 'Tis true, where the
"vessels are depleted, a *repletion* is forthwith made *ob*
"*fugam vacui*, to avoid a *vacuity*, but the supply is from
"what comes next: for as *intro* as well as *intro foras*.
"However there is no streight immediate Revul-
"sion intended from the part affected to the *Ori-*
"*fice*.

It seems strange to *me* that any man should *pretend* thus long to have diligently attended on the *practise* of *Physick*, and yet *never have seen*, or have the impudence to deny that there can be any such thing as a *surcharge of Blood*, which is that which *Physicians* call a *Plethora* or *Plenitude*. But the *continuance* of these **Baconical** Philosophers will in time free us from any *admiration* of *this kind*. In *Greece*, when the *Athletæ* or *Wrastlers* were publickly maintained, the *observation* indeed was more *facile* than *now*, but every Countrey almost yields frequent *cases* of such an *indispositi-on*: particularly 'tis easily to be remarqued in *strong*, *healthy* and *plethorick* Children, whose *sudden death*, as it often ariseth from *no other cause*, so it astonisheth the *vulgar*, and usually raiseth in them suspicions of *Witch-craft*. *Hippocrates* and *Galen* having taken notice of

the

the *evil consequences* attending this *habit of body*, do advise the owner to attempt the change of *it*, though it be accompanied with the *most perfect health* and *vigour imaginable*.

Hippocr. sect. 1. aph. 3. Ἐν τοῖσι γυμνασίοισι αἱ ὑπ' ἀκμὴν ἰσχίαι σφαλερώτεραι, διὰ τὸ τῆς ἐχάτης ἔσωσι. ὁ γὰρ δύναται μίνειν τὸ τῆς ἀνθρώπου, ὅτι ἀτρεμέει. ὅτῳ δ' ἂν ἀτρεμίωσι, ὃς ἔτι δύναται ὁπὶ τὸ βέλτιον ὁπολλύναι, λοιπὸν τὸ ὁπὶ τὸ χεῖρον. τυτέων ἕνεκα τὴν ἰσχίην λίην ξυμφέρει μὴ βραδίνειν.

And this *habit of body, and fulneſs of blood*, which *he* ſaith would do *Methuſalem* no harm, is obſerved by thoſe who had daily opportunity to ſee the *ſad experience* of it, to *abbreviate the life*, and occaſion many *diſeaſes*, as *Apoplexies, Cardiacal Syncopes*, and *Ruptures of veins in the Lungs, Squinancies, Pleuriſies*, &c. So that *Hippocrates* condemns that *habit of body* again in his book *De Alimento*: and *Celſus* concurs with him therein. *Ea corpora, quæ more eorum* [Athletarum] *repleta ſunt, celerrime & ſeneſcunt & ægrotant.* i. e. Thoſe bodies which are *dieted* and brought up to an *Athletick habit*, do ſooneſt of all decline into *ſickneſs* and *premature old age*. I never read of any *Phyſician*, who in his directions for *health* recommended unto his Patient that *courſe of life* wherein the *Athletæ* were bred up, thereby to acquire ſuch a *Plethoric* habit: and whatever the *preſent ſanity* were which they injoyed as to *ſtrength of body*, their *intellectuals* were very *dull*; and the moſt *underſtanding perſons* would have thought it *prudential* in ſuch a caſe to *broach ſome of the Balſome of life, and weaken Nature thereby*, rather than to live in a perpetual danger of ſuch *perillous diſeaſes* as that *Enexy* ſubjecteth men unto: But our *Helmontian* doth think otherwiſe.

Plato de repub. l. 3.

Galen in exhortat. ad bonas artes diſcend.

C. Celſus Medicin. l. 1. c. 1.

If *ſuch an habit of body* be thus *perillous* during *perfect health*, how ought a *Phyſician* to apprehend it upon the *firſt approaches of ſickneſs*? Doth not *then* Nature add to the *redundance of blood* by a *defective tranſpiration*; whereas the *veins* are ſo *full* as not to be able to contain more? Is not the *pulſe weak, ſlow*, and *oppreſſed*,

oppreſſed, and the *Heart ſo debilitated* as not to be able to diſcharge it ſelf of the *Blood* which *flows into it*, and in danger to *ſtagnate in the Lungs*, or *coagulate* in the *Ventricles?* Can there ſeem any thing more agreeable to *common reaſon* in this caſe, than to practiſe *Phlebotomy*, whereby Nature is at preſent *alleviated*, the *ſurcharge of blood* abated, and the *imminent dangers* prevented? Is it not *prudential*, were a *little blood* ſo precious a thing, and the loſs *thereof* attended with ſome ſmall *irrepairable debility*? Is it not, I ſay, a part of *prudence*, to ſubmit to *leſſer* (though *certain*) inconveniences, then to run an almoſt *inevitable hazard* of the *greateſt imaginable*? I read not that the famous *Milo* arrived to the *years* of *Methuſalem*, nor yet to thoſe of *Hippocrates*: though I am apt to think *he* was ſo ſolicitous for to preſerve his *ſtrength* in its *vigour*, as not to have been much *Phlebotomized*: At the *Olympic Games* being Victor, and going to receive the *Garland* from the judges, he *fell down dead ſuddenly*, and was thence carried to his *Grave*. It is to be ſuppoſed, according to our *Helmontian*, that in that *Euexy* of body, ſomething ſo *virulent* or odious put the *Archæus* into ſuch a *fury* that it *ran mad* and deſtroyed him: whereas had it been *ſublimate* or *Arſenic*, it would not have been half ſo *exaſperated*, or *haſty*. 'Tis a moſt humourſome and ſenſleſs *Kitchin-boy*, that no man knows how to pleaſe: Suppoſe that the *Brain* might be in him a little oppreſſed with a *Vertigo*, or ſome *petty diſorder*, muſt this *capricious Duumvirate* immediately produce the *Idæa* of no gentler a diſeaſe than an *Apoplexy*, or *Epilepſy*? But to paſs from theſe *phantaſtic* cauſes, the allegation whereof leaſt becomes an *Experimental Philoſopher*, I ſhall inſtance in the effects of Bleeding in a *Plethora*.

Æ'im. vir. Hiſtor. l. 9. c. 31.

Anton. Benivenius Medicinal. obſervat. c. 69.

'' Men commonly attribute much to the *Pulſe* in
' the diſcovery of *diſeaſes*: If that be *weak*, *low* and
' *ſmall*, they frequently preſage *death* or *mortal dan-*
' *gers*: if it be *full* and *ſtrong*, they give *hopes* or *aſſu-*
' *rance* of recovery. Yet we meet with one *Philip*, a
' drunken and *corpulent* fellow, who lying ſick in his
' bed, I found his *Pulſe* ſo weak, that it was ſcarce
' *perceivable*, and I ſhould have thought him near
' *death*, had not the *high colour of his face*, the *fulneſs*
' *of his veins*, and *his eyes ready to ſtart out*, together
' *with the ſetting of his teeth*, all proceeding from *re-*
' *dundance of blood*, hindered me from paſſing ſuch a
' *Prognoſtick*. Upon due examination of *circumſtan-*
' *ces*, I concluded the *whole diſtemper* to ariſe from a
' Plenitude and that there was no ſuch *effectual re-*
' *medy* for him as ſpeedy *Phlebotomy*: His friends were
' much againſt *it*, apprehending that the *weakneſs* of his
' condition was ſuch, that it would rather *haſten his*
' *death*, than *cure him*: but at laſt they did aſſent
' thereunto, and I cauſed him to be *let blood*. And
immediately he recovered, the decay of his ſtrength
' and malady not being more *ſudden*, then was his re-
' covery.

This obſervation of *Bonivenius* is confirmed by the *like accidents* and *reſembling cures*, which had fallen under the obſervation of *Dodonæus*, as *he* relates *there* in his *Annotations*; particularly he ſayes, '' *Adfui &*
' *ego olim homini ebrioſo, qui cum ad tantam plenitudinem*
' *veniſſet, ut quodammodo ſtrangulari videretur, etiam*
' *mutus factus fuit. Huic vero & ſanguis largiter de-*
' *tractus e communi dextri brachii vena, mox loquelam &*
' *ſanitatem reſtituit.*

It

It were *endleſs* to tranſcribe caſes of *this nature*: nor do I believe that there is any *underſtanding Practitioner* who will deny that 'tis poſſible for an *exceſs of blood* to become *prejudicial* to a man. I proceed againſt our *Helmontian*: He ſayes, "that **nimiety** or "**plurality** *doth not offend in ſuch caſes, but the* **pravity**: *and that the pravity is to be cured by proper* "*means ſequeſtring the vile from the* **precious**, *and* "*afterwards excluding it by* **vomit, ſtool, urine, ſweat,** "*and* **expectoration.**——I anſwer, that the caſe here being put concerning perſons that are *Plethorical*, and that *Quoad vaſa*, when the veſſels are ſo *full* that *Nature* **languiſheth under the burthen**, and is not able to diſcharge even the *vital operations*, by *reaſon* of its *exceſs*: though the *Blood* may have ſome mixture of *depraved humours*, and though they may have occaſioned that *ebullition* or *irregular motion of the blood*, yet is not the diſeaſe *ordinarily* to be cured without *Phlebotomy*: I will not deny but that *ſuch* caſes may be alledged, as the Patients *may* have recovered out of *thoſe kinds of diſtempers*, not only without *Phlebotomy*, but without any *help at all*.

I am willing to grant that the *Diatritarii*, or *Ægyptians* (who were prohibited by *Law* to adminiſter any manner of *Medicament* till after *three dayes* were paſſed) that *many* did recover *under their hands*: though I believe that in *Apoplexyes* and *Squinancies* multitudes muſt have miſcarried: Had not *Eraſiſtratus* done *great Cures*, his *fame* had never equalled that of *Hippocrates*: So *Petron* was a man of renown, yet perhaps what *Celſus* avoweth of the *laſt*, may be fixed upon **them all.** *Plures, ſi protinus a principiis excepit, interemit.* Thus much I am willing to grant, when *judicious* men are the *Phyſicians*, and inſtead of one *Medicament* do ſubſtitute *another*. But what *Aſclepiades* or *Eraſiſtratus* might do in *their dayes* (when *faſtings*, *bathings*, *oylings*, and the like were the ſo much

Ariſtot. polit. l. 3. c. 2.

Galen. adv. *Eraſiſtratum* c. 4.

C. Celſus Medicin. l. 3 c. 9.

Aſclepiades was he that *firſt* profeſſed to cure *citò, tutò, jucundè.* *C. Celſ.* l. 3. c. 4.

much the *vulgar practice* in *health*, that *Patients* willingly ſubmitted thereunto in *ſickneſs*) I cannot believe that an ignorant *Helmontian*, or other *cheating Chymiſt*, or *illiterate Experimentator* of this Age can do. Phyſick is a PROFESSION wherein we commonly ſee Miracles, the events of diſeaſes being ſuch, that Nature oftentimes tranſcends our Art, and Imagination: And ſundry unexpected Medicaments (undoubtedly raſh) do effect Cures that the moſt rational and Methodical procedures have failed in. Nothwithſtanding all this, I do not ſee that we ought to preſume upon monſtrouſities; or regulate our practiſe by ſuch contingent Cures: And I ſcarce believe that any *diſcreet* perſon would either *put his life upon ſuch an adventure*, or take it well from us ſhould *we* either relinquiſh or perſwade him *thereunto*. I ſay then, that in a *Plethorick* body, ſuppoſe we that it is an *Ephemera*, or *Synochus imputris*, 'tis *well* done of the *Phyſician* to bleed the Patient, leaſt thoſe *Feavers* (which we confeſs, even without *Phlebotomy*, to be *ſafe*) leaſt the *Diary feaver* ſhould degenerate through ſome *ſecret indiſpoſition of the Patients body*, or *ſome errour committed by him*, into an *Hectick or putrid Feaver*: *Non eſt tamen negligenda hæc febris Ephemera quamvis velocis & bonæ terminationis ſit, cum ſoleat propagines malas gignere, & in alias febres tranſmutari: & licet cito terminetur, non tamen inter morbos acutos reponenda: quia caret malis accidentibus. Si error contingat in curatione vel per medicum imperitum, vel ægrotum periculum eſt ne in Hecticam tranſeat, ſi bilioſæ fuerit temperaturæ, qui egrotat: In aliis vero in putridam.* This is *confirmed* by many *obſervations*, and allowed of as *true* by *Phyſicians*: No leſs *true* is it that a *Synochus ſimplex* changes into a *putrid Feaver*, and *Squinancies*: as *Forreſtus*, and *Experience* demonſtrates. As for diſeaſes *accompanied by*, or *occaſioned from* a particular

conflux

Fere, quos ratio non reſtituit, temeritas adjuvat. *C. Celſus* Med. l 3. c. 9.

Forreſt. obſ. l. 1. obſ. 3. in Scholio.

Forreſt. obſ. l. 1. obſ. 12, 13

conflux of blood (though ſome *humours* alſo be depraved) unto any part, as *Apoplexies*, *Squinancies*, &c. for any man to think that ſuch *diſtempers* can be *cured* without *Phlebotomy*, is direct **madneſs**: for all other *evacuations* (by *emeto-cathartics*; which every *body* cannot endure, nor is the *Apoplectick* in a condition to *ſwallow*) or *ſtool*, *urine*, or *ſweat*, and *expectoration*, are either *uſeleſs*, or too *tedious* to depend upon in *ſuch indiſpoſitions*. Neither is that to *any purpoſe* which this *Baconical Impoſtor* ſaith, that *after ſuch a ſtrict abſtinence as the Patient is put upon in a Feaver, it is very unlikely a plenitude ſhould be of any duration*. For if the **Feaver** be ſuch as is accompanied with a *particular deſluxion upon ony principal part*, the effects of that *abſtinence* will ſignifie nothing: for the *party* will dye (*in all probability*) before he can reap any benefit by *ſuch abſtinence*: no benefit accrues *by abſtinence*, but after *ſome time*: whereas the *malady* permits *no delay*. It is *notorious* that *ſuppuration* is not the effect of a *few hours*: and that *pain doth attract* (explain the *notion* how you will, the *Phænomenon* is manifeſt) ſo that 'tis not to be conceived how ſo *acute a diſeaſe ſhould admit of a lingring cure*. The *reſidue* doth not need any *anſwer*: for to ſay that whoſoever *looſeth any blood* doth rue it firſt or laſt, is a matter as eaſily denied by an *intelligent Phyſician*, as it is avowed by *one* that it is *not ſo*: If a *prudent* man adviſe *it*, there is not any danger (abſtracting from *caſualties*) if the *Patient* and thoſe *about him* do their *duty*. Theſe *laſt circumſtances* are ſuch that *Hippocrates* placed them in the firſt of his *Aphoriſmes*. Δεῖ δὲ μόνον ἐυπόρον παρέχειν τὰ δέοντα πρὸς τοῦτο, ἀλλὰ καὶ τὸν νοσέοντα, καὶ τοὺς παρόντας, καὶ τὰ ἔξωθεν. It is not *impoſſible* but that a Patient may be ſo debilitated with *his malady*, and the means uſed for his *recovery*, that he continue

Si omnia membra vehementer reſoluta ſunt (*in apoplexia*) ſanguinis detractio vel occidit, vel liberat. Aliud curationis genus vix unquam ſanitatem reſtituit; ſæpe mortem tantum differt. *C. Celſus* Medicin. l. 3. c. 27.

Itaque mittitur, non quia multa ſubeſt copia, ſed quia ea quæ ſubeſt, tunc eſt inutilis & noxia. *Voller.* Method. med. l. 2 c 3.

nue afterwards *infirm*: if *he* refuse thereupon to take that *Analeptick* Physick in order to a perfect *convalescence*, whatever ensues is neither the default of the *Doctor*, nor the evil consequence of *Phlebotomy*: The *same* I may say in case either the sick party be not *tractable*, or those about him *malapert* or *negligent*, or some *extraordinary casualty* do fall out. For where many concurrent causes are requisite to the producing of an effect, if it succeed not, we are not to blame what did operate, but what failed.

Potest autem id, dum solum est, non movere, quod junctum aliis maxime movet. *C. Celsus* l. 1. in præf.

As to Revulsion that which he saith is very *weak*: ——*G. T.* averrs that the best Practitioners take it for an Errour: 'Tis no great *vanity* to pretend to know more than a *Baconical Philosopher*: I do say, that no experienced Physician ever denied the operation though since the *tenet* of the Circulation of the Blood the manner how *such an effect* doth succeed admits of *some dispute*, and is *obscure*. We the *silly followers* of *Galen* and the *Ancients* do think it an *imbecillity of judgment*, for any *to desert an* experimented practise, *because he doth not comprehend in what manner it is effected*. In *eruptions of blood* and *Catarrhs* every one sees *the thing is done*: and that the Fuga vacui is not the occasion of the *subsequent blood* flowing to the *orifice of the vein*, I believe those *to whom he dedicated his Book* will assure him. How perfect *our Cures* are *continual tryals* demonstrate: How little *confidence* there is to be placed in the *Brags* of——*G. T.* after his *ten years practise*, any man may determine by taking a *due estimate of his Ignorance*.

Having thus examined all his Arguments against Phlebotomy, I come now to give *our Reasons* for it: But before I proceed to *them*, it is *necessary* that I give my Reader some account of,

The

The quantity of Blood in humane bodies.
The ſeveral Qualities of the aforeſaid Blood.
The manner of its Generation.

As to the *Quantity of Blood* that is to be found in *Humane bodies*, *Gaſſendus* holds that the *utmoſt* thereof exceeds not *five pounds*: but he is juſtly reproved for that *errour* (and for intermedling with *Medicinal* debates) by *Riolanus*; who avows, that in *ſuffocating diſeaſes* he had taken away much more *than that* within the ſpace of *twelve hours*, without indangering the Patients *life*. To relinquiſh therefore theſe *impertinent* Naturaliſts (whoſe diſcourſes in *Phyſick* have done more *hurt* than *good*; being accommodated generally to ſome *prejudicate Hypotheſis* they take up, or founded upon a *narrow experience*) let us ſee what *Artiſts* teach us, *Avicenna* and ſeveral of the *Arabians* do hold, that there are *ordinarily* in a man twenty five pounds of *blood*, and that a man may bleed at the noſe *twenty pounds*, and not dye: but if the flux exceed that, after the loſs of *twenty five pounds* he dies inevitably. *Mœbius* doth allow of *twenty four pounds* to be the *uſual quantity*: *Homo ſtaturæ decentis ad libras* xxiv. *ſanguinis in corpore habet*. *Riolanus* imagines there may be in ſuch a perſon *fifteen or ſixteen pound*, at moſt but *twenty* in a *French-man*, though in a *German*, he ſayes, *Plempius* ſuppoſed there might be *thirty*. In an *healthy ſanguine* perſon, being in the prime of his years, *Marquardus Slegelius* doth ſo calculate the matter, that he concludes there cannot be above twenty or eighteen pounds; and that the generality of men contain but fifteen. Doctor *Lower* in his excellent Treatiſe *Of the Heart*, doubts whether any man hath *twenty five pounds of blood* in his body: and ſayes, that according to *Anatomiſts*, the *quantity* ſeldome *exceeds* twenty four pounds, or is leſs than *fifteen*.

I. Riola. opuſc. Anat. nova, in rot. adv. *Gaſſend.* p. 174.

Alex. Muſſaria de febr. c. 29. *Io. Riolab* Enchirid. Anatom. l. 2. c. 27.

Mœbius fund. med. c. 12. ſect. 18.

Riolan. de circulat ſang. (in *Antropograph.*) c. 15. p. 585.

M. *Slegelius* de ſangu. motu. c. 13. p. 104.

Dr. *Lower* de Corde. c. 3. p. 115, 116.

Perhaps

Perhaps the conſideration of ſuch *fluxes of blood* as ſpontaneouſly happen may give ſome light unto the controverſie, and contribute moſt to the deciſion of the grand one, *concerning the prejudice that may ariſe from the loſs of Blood by Phlebotomy.* It is recorded by *Matth. de Gradi*, that he had under his cure a *lean, ſlender* and ſeemingly *Phlegmatic* Nun, which by the *Noſe, Mouth* and *Urine* did void at leaſt *eighteen pound of blood*; and yet there remained ſo much in her, that upon the application of *Cupping-glaſſes*, they were inſtantly filled with *Blood*: and he recovered her *notwithſtanding that loſs of blood.* *Braſſavolus* relates how he had in cure one *Diana* a Lady of the Houſe of *Eſte*, which bled ſo much at the Noſe, that he ſaved and weighed *eighteen pounds*, beſides what was loſt in the clothes applied to her: ſo that the whole quantity might amount to twenty two pounds. He recovered her by the uſe of ſeveral Remedies, one whereof was *Phlebotomy.* *Marcellus Donatus* doth avow, that he weighed *eighteen pounds of blood* which iſſued from the Noſe of a certain Cook of the Cardinal *Gonzaga's*; who was recovered to as perfect health and as *good an habit of body*, as he ever enjoyed before. *Amatus Luſitanus* gives an account of one in a *Quartane*, which bled at the Noſe within five dayes twenty *pounds*: and of another who *bled* in like manner, within the ſpace of ſix dayes *forty pounds*: whom yet he cured by *Phlebotomy.* *Montanus* ſaith he cured one of the *Emeroids*, which bled every day for forty five dayes, *two pounds of blood*, and more. *Arculanus* doth tell of one Woman that avoided by the *Womb* in three dayes *twenty five pounds of blood*, and yet recovered. *Almericus Blondelus* cured in a very ſhort ſpace a Souldier who was wounded under the right Arm-pit unto the Lungs: after the man had lain without ſenſe or motion many hours, on a ſudden there iſſued an *incredible quantity of blood* out of his mouth. The like *incredible*

Schenck. Obſ. med. l. 1 p. 172.

Ant. Muſa Braſſavolus comment. ad Aphor. 23. l. 5.

Marcell. Donatus de variolis. c 23.

Amat. Luſit. curat. 100. cent. 2. & cur. 60. cent. 7.

Schenck. obſ. med. l 3. p. 312

Schenck. Obſ. Medic. l. 4. p. 614.

Almar. Blondelus de venæ ſectione, c. 2. p. 30.

dible fluxes of blood, in *men* and *women*, he profeſſeth to have obſerved many times. *Forreſtus* relates how a Gentleman that was *his Patient* did bleed at the noſe in three dayes time, about *twelve pounds of blood*: and was recovered as well as ever. And when *William* Prince of *Orange* was wounded in the *throat* by an *Aſſaſſine*, he bled at the *Jugulars* before the flux could be ſtopped (which was not done in ſeveral dayes) *twelve pounds of blood*: and was perfectly recovered to his ſtrength again. He alſo tells of another *Gentleman*, that having drunk *Wine-muſt*, fell into ſuch an *Hæmorrhagy* at the noſe, that he bled without intermiſſion *ſix pounds*; and was cured by *Phlebotomy*, and other befitting Medicaments. *Maſſarius* did ſee a young Lady of *twelve year old*, which avoided at the noſe about *twelve pounds of blood*: but fell afterwards into a *Cachexy*. To conclude, in the words of *Jo. Riolanus*: *Imo decem vel duodecim libras per nares, vel hæmorroidas, per uterum in mulieribus effundi intra ſex octove horas ſine vitæ detrimento quotidie obſervamus.*

Forreſt. Obſ. Medic. l 1. Obſ. 14. cum *Scholio.*

Id. ibid. Obſ. 12.

Alex. Maſſarius de febr. c. 29.

I. Riolan. inter opuſc. nova Anat. adv. *Gaſſendum*, p. 108.

As to the Quality of the Blood, it is obſervable, that there is a great variety in the *colour* and *conſiſtence* thereof, even in men of *perfect health*: many upon *Phlebotomy* convince us that *their blood* is ſeemingly *bad*, whereas they are not moleſted with *any diſtemper* at all, but enjoy as *entire a ſanity*, and are as free from diſeaſes as thoſe whoſe *blood* is to appearance *better*. I have *elſewhere* given an account of ſeveral *Phænomena* to be remarked upon the *burning of Blood*: which Obſervations are the more conſiderable, in that *J. J. Becherus* hath publiſhed a great miſtake about it: *viz. Siccum ſanguinem in igne ut lardum flagrare, & abſumi, non minori celeritate quam ipſum oleum & vini ſpiritus; & in hoc quidem balſamino ſpiritu & igne, totius ſanguinis vis & bonitas conſiſtit, quoque*

I. J. Becherus Phyſic. ſubterran. l. 1. ſect 5. c. 1. p. 304.

corrupto aut alterato, totius ejus crasis alteratur. But I say that it is not requisite the *blood* of every *healthy person* should *burn so*: and 'tis evident by *those Experiments* of mine, that there is a very great diversity betwixt the *blood* of *several persons*, as to *inflammability*; and I know a most fair *Lady*, whose *blood* will not *burn at all*, only *crackles*, that enjoyes a *constant health* beyond most of the *Sex*, excepting a *pain at her stomach*: and I have observed that to be an usual consequent to *such blood*. I shall not illustrate this matter at present by demonstrating the great discrepancies of the *blood* in several *healthy persons*, by mixing it with *sundry liquors*, wherein the diversity of *Phænomena* doth manifest the *great variety* thereof. It is observed by many *Practitioners*, that in *healthy persons* such *blood* doth often appear upon *Phlebotomy*, as to the *Eye* seems *bad*.

Almericus Blondelus de venæ sectione. c. 1. p. 8.

'*I have seen many* (saith *Blondelus*) *who being casually hurt in the Eye by a tennis-ball, or by some other accident wounded and bruised, have been let blood; and the blood which issued out seemed corrupt: yet have not these persons had any thing of a Feaver on them, nor been some of them sick of twenty years before.* And

Ballonius Epidem l. 1. p. 101 102.

'*Ballonius* observed *in several Ladies that out of humour rather than any indisposition were let blood in* 'May, *and six or seven poringers taken from them, that* 'their *blood was very putrid.* And he avows that in

Id. ibid. l. 2. p. 192.

the most *fair Ladies* there generally is found such *blood* as looks *impure* and *evil*: yet that *such persons* enjoy a *greater*, or at least as *perfect an health*, and *live as long* as any that have a *better-coloured blood*. It is granted by *Slegelius*, that oftentimes upon *Phlebotomy* the *blood* which issueth forth may seem *impure*, and yet the *Patient* be healthy. *Nonnunquam satis insignis impuritas inest sanguini, ex cava educto, nullis gravioribus symptomatis homini molestis, ex quo patet non tantum semper periculum imminere, si nonnullæ sordes sanguini admisceantur.* I shall repeat here again the *strange*

M. Slegel. de sanguinis motu. c 9. p. 75.

blood

blood which *Simon Pauli* obſerved in an *healthy* perſon.

Simon Paulli de febr. malign. ſect. 11.

" *In the year* 1654. *a Citizen of* Coppenhagen, *aged* " *almoſt ſixty years, being accuſtomed to be let blood every* " *year in* May, *for prevention of the diſeaſes incident in* " *Summer, would needs be Phlebotomized in the preſence* " *of Me, and his Wife and Children: the Chirurgeon* " *having prick'd the Mediane vein, the blood as it iſſued* " *ont had a peculiar but moſt noyſome ſmell, tranſcending* " *any rotten Egg, or ſtinking Ulcer,* &c. *which was ſo* " *offenſive to all in the room, that we were forced to re-* " *medy it by burning ſome perfumes. As ſoon as the* " *Blood was cold in the porrenger, the ſtench ceaſed, and* " *the blood ſeemed to be of a very good conſiſtence, and of* " *ſo radiant a Scarlet, that it equalled or rather exceeded* " *the beſt red that is to be ſeen in the moſt beautiful* " *Flowers: it contained but little ſerum.* This paſſage of his recalls to my mind the *ſerum* of the *blood* of a Maid, of a *ſanguine colour*, and perfect health, excepting a pain in her ſtomach: the *blood* which I cauſed to be taken from her ſeemed *laudable*, and burned very *vividly*; but the *ſerum* being ſet to *coagulate*, ſeemed in conſiſtence like to *tallow*, and ſmelt like thereunto. In another *Child* that died of an *Hydrops thoracis*, I obſerved the *ſerum* (as it *heated*) to *ſent extreamly ill*, and with a *penetrancy*, as if it had been *Vitriol* burning: it would not *coagulate* though I boyled it; but afterwards when it had ſtood to be *cold*, it did *jelly*. I know a *Gentlewoman* of extraordinary beauty, troubled with nothing but *Morphew* or *Vitiligo alba* on her Armes in ſome places: being let *blood*, it appeared to be all *ſerum* almoſt, and very little of any *crimſon miſs* was in it, and that not ſo *tenacious* or *fibrous* as is uſual; though it were as *well coloured* as any is: I boyl'd away all the *ſerum* (which made up about ſix ounces, or more) and it would never *inſpiſſate* or *coagulate*. The variety of *Blood* is further illuſtrated by the caſe of *Henry van Bueren* a Brewers man, who in perfect

Regnerus de Graef de genitol. p 84,85.

health had his *Blood* ſuch, that though it came out of the *vein* with a *ruddy colour*, yet as it *cooled* all the *ſerum* did turn *lacteous*, and reſembled *Milk*: though the *ſanguineous* Maſs retained its due colour: and this was conſtant to him whether he bled by *Phlebotomy* or any other way. A caſe like unto this is related by *Bartholin* from *Joh. Bapt. Caballaria*. Concerning the variety of *blood* in *healthy perſons*, it is further obſervable: that not only in ſome ſmall wounds admit of *no cure*, or a *difficult one*: whileſt others heal with more *facility*; in the *ſame perſons*, when they are *young*, wounds will be *eaſily cured* even by the *firſt intention*, and conjoyning of the *lips* thereof: And afterwards as they grow *more in years*, every *ſuperficial wound* gives them *much trouble*; but when they become *old* every *ſcratch* degenerates into a *foul Ulcer*: notwithſtanding that the *Patient* all this while commits not any errour in his *diet*, nor is ſenſible *otherwiſe* or any *alteration* in his *body*, or *blood*. In fine, *diligent obſervation* will aſſure any man, that not only the *Quantity of blood* doth vary in ſundry perſons, but even the *Quality*, according to the *age*, *temperament*, *and diet* of the parties; nay even according unto the *ſeaſonableneſs* and *ſeaſon of the years*. Nor ſhall I exclude the *paſſionately-angry*, or *melancholick*, or *phlegmatick* from a *latitude*, yet doth their *blood* exceedingly *vary* in the porrenger, and conſequently in the veins. I have oftentimes ſeen (and ſo hath *Van der-Linden*) that in ſome *healthy* perſons the *blood* hath been of a *redneſs* equally *florid* from the *top* to the *bottome*: in ſome there hath appeared only ſome *blackiſh ſpots* at the *bottome*, which no converſion to the *open Air* would rectifie into a *florid crimſon*: and perhaps *ſome Obſervations* may inform a man that the *florid colour* in the ſurface of the *blood* ariſeth from a *thinner* ſort of *blood*, of a *peculiar kind*, which *radiates* through a ſubtle *pellicle* on the *top*, and when the *blood*

Th Bartholin. Spicileg. de vaſ. Lymp. c6.

Van der Linden Diſp. Phyſiol. 39. §. 22.

Van der Linden Diſp. Phyſiol. 41. §. 22.

is

is turned *topsie-turvey*, 'tis not the impressions of the *Air* that restores the *decayed colour* in the more *black blood*, but the *assent* of this *Ichorous blood* through the more *black* and *fibrous* mass. I have some grounds for this *suggestion*; but I never could see any *pellicle* or thin *concretion* upon the *turned blood*, and to the *defect thereof* I have been willing to attribute the *Phænomenon*, when the *turned blood* hath not equalled in *floridness* the first *superficies*. Some have attributed that *florid colour* to the *concretion* and *shooting* of some *volatile Salts* in the *surface of the Blood*: and think that *Kircher* mistook those *saline striæ* for *Worms* in his *Microscope*.

Simon Paulli de febr. malign.

Besides this difference in the *Mass of Blood* as to *several Individuals*, it may not be amiss to consider the difference that is betwixt the *Blood* in *sundry vessels* and *parts of the body*. It is the most *common tenet* amongst *Anatomists*, that the *Blood of the Arteries* differs very much from that of the *Veins*. Though *Harvey* seems to deny it with *much confidence*, and appeals to *Experience* for the proof of *his Opinion*: yet the *Generality*, as Doctor *Ent*, *Walæus*, and *Lower*, grant there is a great difference in the *colour* of them, and that the *Arterious blood* is the most *florid*, the *venous* is of a *darker red*: Besides this difference in *colour*, there is a *greater* which ariseth from the quantity of *serum* which abounds in the *Arterious blood* more than in the *venous*. "*Comprobavimus in accepto per nos ex crebris* "*Arteriotomiis cruorum duplem ferme compertam icho-* "*ris portionem: qua fit fortassis ut crediderit Auctor* "*lib de util. respir. Sanguinem Arterialem non concre-* "*scere velut venalem; quanquam & nos eum concrescere* "*non semel observavimus*. So *Aurelius Severinus*: with whom *Bartholin* agrees. And Doctor *Ent* sayes it is more *dilated* than the *venous*. Besides this, there is a discrepancy in the *venous blood* it self: for in the Lungs

Harvey Exercit. Anat. 2. ad Riolan.

Aurel. Severinus Epidoch. de aq. peric. sect. 8.

Bartbol Spic. 1 de vasis Lymphat. c. 7. Ent de circul. sang. p. 106. & 267.

Lungs the *Blood* acquires by the mixture of the Air a *tenuity of parts* and *florid colour* exceeding any other *venous Blood:* this *Columbus* first obſerved, and gave *this reaſon* for the *colour* and great change which is made in the *Blood* by paſſing the *Lungs*; proceeding to an imagination that the *vital ſpirits* in the *Arterious blood* might be the reſult of this *intermixture of Air with the Blood* in the *Lights:* Moſt of whoſe opinion is taken up by Doctor *Willis* of late, and Doctor *Lower*. Beſides *this* there is a *diſcrepancy* betwixt the *Blood* of the *Vena porta* commonly and that of the *Vena Cava:* which is not barely ſuppoſed by *Riolanus*; but yielded by *Bartholin: Sanguinem in cava prope cor puriorem eſſe illa qui in vena portæ continetur, omnibus in confeſſo eſt qui circulum norunt.* Upon this account it is, that by the *Emerods* there is often diſcharged a *black fæculent blood*, to the great benefit of the *Patient*: but whenſoever it is *florid*, the effuſion *thereof* brings a great *debility* (ſometimes *very laſting*) unto *many perſons*. May I be allowed here to take notice of the Obſervation of *Spigelius* concerning the *Saluatella:* that the *Blood* which iſſues *thereat* is more *florid* and *Arterious* than any can be drawn from the *greater veins:* this he attributes to the frequent *Anaſtomoſes* that are betwixt the *Arteries* and *Veins* in the remote parts of the body: *wherein* he was defended by *Veſlingius*, and *Van der Linden*. Doctor *Harvey* obſerved in the moſt *healthy* and *robuſt* perſons a certain *muccaginous* humour to *jelly* upon the ſurface of their *Blood*, which he eſteemed to be the moſt *ſpiritous* part thereof, others take it to be not an *excrementitious Phlegm*, but indigeſted *Chyle:* concerning this *Mæbius* doth profeſs, he never obſerved *any of it* in the *blood* drawn, or iſſuing from the *veins* in the *head:* but frequently in that let out of the *arms*, and moſt of all in that which hath been taken by *Phlebotomy* in the *feet*. It hath been obſerved, that the *Blood* which hath iſſued from the

Reald. Columbus Anatom. l. xi. c. 2.

Willis in Exercitat. de ſang. accenſione, *Lower* de corde. c. 3.

Bartholin. Spiceleg. de vaſ. Lymphat. c. 7.

Spigel. de fab. corp. hum. l. 5. c. 7.

Veſling ep. 36. & *Van der Linden* Select. med. c. 13. ſect. 423.

Mæbius fundam med. c. 12 p. 258, 259.

the *head* at the noſe hath been of a *laudable colour* and *conſiſtence*, when that which hath been let out at the *ſame time* by *Phlebotomy* hath ſeemed impure: And the like difference hath been taken notice of betwixt the *Menſtruous* evacuations of *Women*, and the *blood* taken from *their armes*. Ballonius Epidem, l. 1. p. 68.

This *variety* in the *blood* of ſeveral perſons oftentimes is a cauſe of that *diſcrepancy* which is to be in the *blood* of Men that are *ſick*, in ſo much that when ſundry men are afflicted with the *ſame Malady*, yet may it happen ſo, that there be little or no reſemblance found in *their blood*. Oftentimes it is obſerved that in *Putrid feavers* the *blood* that is let out by *Phlebotomy* is ſeemingly *good*. *Sæpe ad ſpeciem & viſum purus eſt, qui aliqui τῇ ὅλῃ ὐσίᾳ malus eſt. Vt contra impurus cernitur ſpecie, qui non ita τῇ ὅλῃ ὐσίᾳ malus.* The *blood* often ſeems to be *good*, when it is *eſſentially* corrupted and noxious: and it ſeems often to be *bad*, when as yet it is *incorrupt*, and *alimental*. In *malignant* and *peſtilential Feavers* the *blood* is ſometimes *good* to ſee to, whileſt yet the ſick languiſh under moſt *violent ſymptomes*, and commonly *ſuch blood* is of an *evil* prognoſtick. Ballon. Epid. l. 2. p. 192.

Peſſimum ſignum eſt, & timoris plenum, cum ſanguis vena ſciſſa extrahitur, ſi purus, rubicundus, & inculpatus educatur, veneno ſitatem ſuperare indicum eſt, aut putredinem in penitioribus cordis latitare. In me ipſo olim obſervatum; nam ter per hanc febrem miſſo per venam ſanguine, nulla prorſus putredinis nota apparebat, aliis ſignis immani ferocitate ſævientibus. In like manner doth *Simon Paulli* obſerve ſuch *outward goodneſs of blood* to be a ſign of *malignity* in a *Feaver*, and to be of an *ill* preſage: which he illuſtrates with the caſe of an ancient man, fifty ſix years old, who being ſick of a *Feaver* (which the *Doctor* concludes to have been *peſtilential*) was *let blood*: that which iſſued out was ſo *florid*, that it tranſcended what any *pencil* could paint, or *pen* deſcribe now out of any *Artery*, or the Petrus a Caſtro de febr. puncticulari. p. 90. Simon Paulli de febr. malign. §. 11, 14.

Lungs

Lungs ever ſurpaſſed it: after it had ſtood twenty four hours, the *maſs* was all *coagulated*, and no *ſerum* to be ſeen: the Patient died *ſuddenly* and without any pangs of death a little after. With this doth that Obſervation *ſomewhat* correſpond *Coyttarus* doth make (though he take it for no *ill preſage*) that in *Epidemical peſtilential Feavers*, at the beginning if they be *phlebotomiſed*, the *blood* of the Patient will ſeem very *good* and *ſound*, but in the *progreſs* it will come out *putrilaginous*. *Circa morborum Epidemialium principia——ſanguis ſi educatur, ruber & ſano ſimilis apparet——quoties iterum & tertio mittitur, corruptior, quam prius elicitur*——This *he* illuſtrates with *Inſtances*, and makes this *Hypotheſis* (moſt judiciouſly) the foundation of his *Method* to cure *ſuch Feavers* by letting the ſick *blood* in the *progreſs* not *beginning of the Diſeaſe*: And undoubtedly if *then* the *blood* do not ſeem *corrupted* but *florid*, it muſt be from ſome *venenate* or *heterogeneous mixture* which advanceth the *Native red*, as *Spirit of Vitriol* doth that of *Conſerved Roſes*.

Coyttarus de febr. pu pur. p. 247.

It hath been obſerved, that the *blood* in the *progreſs* of *Feavers* hath ſeemed from time to time upon *Phlebotomy* to grow worſe and worſe, even on the day before a natural Criſis. *Quoties enim contigit videre in continentibus ſeu Synochis, & continuis, ſanguinem multoties & die ante Criſin emiſſum priore miſſo deteriorem, & tamen perfectam factam, & ad ſalutem ægrotantis jndicationem, ac ſine recidiva?*

Almar. Blondelus de venæ ſectione. p 8.

Ballonius obſerves that many people in the *moſt fatal Sickneſſes* have bled *pure* and to appearance *good blood*, whoſe *Bowels* and *Lungs* have been found (upon diſſection) *vitiated* and *rotten*: Others have had their *blood* extreamly *depraved*, in whoſe *vitals* no default could be found. "*Plurimis impuriſſimus ſanguis detractus eſt, imo nunquam fere purus, quibus tamen mortuis & ſectis partes omnes ſatis integræ ſunt deprehenſæ.*

Ballon. Epid. l. 2. p. 191.

c *deprehensæ. Aliis fere semper purus, quibus tamen*
c *viscera & pulmones maxime putres sunt inventi.* In a *Pleuritic* that dyed I observed once (besides that his *Lungs* grew *naturally* to his sides) that all the *left lobe of his Lungs* were corrupted and all reduced to a *most fætid purulency*, that the which he avoided in *great quantities* at his mouth, and upon *Phlebotomy* was very *well coloured* and seemingly *landable*. My *Author* goes on: "*Scitu valde dignum est, qui fiat ut multis*
c *quibus putrefacta pæne viscera sunt reperta, laudabilis* Id. ibid. l. 1.
c *sanguis detractus fuerit, item & viris, & mulieribus* p. 100.
multis ἀκχλώσεις, *pallidis ac fere virentibus, cum alioqui*
c *judicasses sanguinem non absimilem colori (cum quale*
c *alimentum, id est succus in venis, talis color efflorescat)*
c *tamen florentissimus sanguis detractus fuerit non*
c *serosus nimium, non subviridis & virore pallidus,*
c " —— *Multos videmus scabie infectos, aut simili vi-* p. 101.
c *tio, quibus certo affirmamus nos impurum sectione venæ*
c *sanguinem detracturos, & tamen in ista defædatione*
c *cutis, illibatus incorruptusque sanguis est, & opinionem*
c *spemque fallit eventus. Nos Elephanticis sæpe lauda-*
c *bilem sanguinem detraximus. Quanquam fieri potest,*
c *ut specie laudabilis sanguis appareat, cum intestinum*
c *aliquod vitium in eo delitescat, quod quidam in habitu*
c *corporis, & præsertim in partibus delicatioribus, ut in*
c *facie cum ultimo elaboratur, & in rorem convertitur,*
c *tum demum se profert & exhibet. Prætera siquis*
c *splenicus est, aut Empyicus, manente in venis sanguine*
c *puro, non desinit esse pallidus, emaciatus, subviridis,*
c *aut nigricans, quia non in massa sanguinis vitium &*
c *causa labis est, sed in alia parte.*

In like manner *Blondelus* observed that after a *Dysentery* of two moneths standing, accompanied with a *Singultus*, and continued *Feaver*, the Marques *De Cenvres* did upon *Phlebotomy* avoid at the *Arm* very *laudable blood*, whilest *that of his stools* seemed to be ex-

treamly corrupted. *His ſuperaddo ſanguinem detractum omnimodas puritatis notas retinuiſſe, a ſero bene repurgatum.*

Almaric. Blondellus de venæ ſectione. p. 68, 69.

Doctor *Willis* after he hath made excellent uſe of thoſe two old Galenical Compariſons betwixt the Blood, Wine and Milk; adds this *accurate* and *true* relation concerning the morbid diſcrepancy of Blood: ‘‘ *Thus the Blood, like Milk, in its perfe-* ‘ *ction*, as it cools *ſeparates into the ſeveral ſubſtan-* ‘ *ces of a* florid red on the ſurface, a thicker filamen- ‘ tous ſubſidence, and a ſerous liquor: *But if it* ‘ *be much depraved, when it ſeparates in the Porringer it* ‘ *diſcovers it ſelf in a* different aſpect, *and each part* ‘ *aſſumes* another ſhape: *for that* cremor *which coa-* ‘ *gulates on the top, ſometimes is* white, ‘ *ſometimes* green, *ſometimes of a* Citrine ‘ *and* livid colour: *and is not* tender, ‘ *but* viſcid *and* tenacious, *ſo that it be-* ‘ *comes as tough as any Membrane, & is not* ‘ *without difficulty pulled in pieces. When* ‘ *the Blood hath been for ſome time ſeiſed with* ‘ *a Feaver, upon Phlebotomy there appeareth* ‘ *inſtead of the* beautiful crimſon *on the* ‘ *ſurface a certain* white *or* other-coloured Pellicle ‘ *oftentimes: the reaſon whereof is that the blood being* ‘ *as it were terrified by its effervеſcence, the upper part* ‘ *thereof commuteth its* redneſs *and* tenderneſs *into a* ‘ white *and more* tenacious *ſubſtance: And if the* ‘ *Maſs of blood be not well cleared of its ſaline and* ‘ *ſulphureous recrements, that ſuperficiary Skin is* ‘ *ſtained with a Citrine* or *livid tincture: and for the* ‘ *ſame reaſon the* ſupernatant Serum acquireth ‘ the ſame Colours: *Moreover the* purple craſſa- ‘ ment of the Blood *undergoeth ſeveral variations:*

Dr. *Willis* de febr. c. 1.

En in vero ſuperficies candicans gelatinæ ſimilis in emiſſo ſanguine, plerumque in morboſis condenſata conſpicitur, & vidi cori inſtar craſſam lentamque; ſæpe in febribus acutis hoc anno obſervatur. *Th. Bartholin.* de lacteis dubia, c. 3.

ſome-

Sometimes it is (a) blackish, *when the Blood hath been too much terrified with a long effervescence. Sometimes the* fibres *thereof are quite vitiated, so that it will not* (b) coagulate, *but remains fluid, like thick Milk; which is a bad sign, and occurs often in putrid Feavers, and Cachexies. The* Serum *is sometimes deficient, as in Hicticks, and after too much sweat. Sometimes it* superabounds, *as in Hydropicks; and being set upon the fire will not* entirely *coagulate into a* white mass: *In some cachectical persons the blood is so* watrish, *that it resembles that sanious blood which stains the water in which flesh is washed. I knew a man of an evil habit of body, whose blood* (upon Phlebotomy) *used to seem* white *and like to Milk; which, after a course of Steel would be again* indifferently red.

(a) It was *black*, in colour and *consistence* like to *liquid Pitch*, in the Woman whose *menstrua* stopp'd eight moneths, and was cured by *Galen* with reiterated and large *Phlebotomies*. *Galen* 6. Epidem. 3. 29. cum notis *Van der Linden*. select. med. c. 14.

(b) Aliquando putrescentia non tam se insinuat colore, quam substantiæ modo, ut quum erit *ruber* sed non *concrescens*. *Valles*. de victu in acut. p. 45.

I shall add hereunto, that I have frequently seen the Blood in *Hectical* persons, and such as have had a *latent Feaver* to be *very serous*, and that of a *livid*, and *citrine colour*: and in *Hydropics* that have *bled at the nose* there was not any *serum* in the *blood* at all. In the *Febris alba virginea* (which I here contradistinguish from the *Chlorosis*) I extracted four hours after dinner out of the *Saphena* of such *blood*, as that the *Crassament* was laudable for *colour* and *consistence*, but the *serum* was so *white*, as not to be distinguished from *milk*: the *lacteous serum* did *coagulate*, but retained no *smell*, whereas it usually resembles a *roasted egg*: it was *saltish* to taste: At the *same time* I blooded two more in the *foot*, neither of which had any such *lacteous serum*, but a *citrine serum*: Hers, which was a young *Lady*, and in health, burned very well, and *crackled*: the other being aged sixty years, was *excellently* and

Both the *white serum* and *blood* burned *vividly* without any *crackling*.

equally coloured from *top* to the *bottom*, and the *ſerum* inclining to *citrine*: but would not *burn* at all, only *crackled* much, and *puffed with wind*. She had no indiſpoſition on her, only was troubled with a *fluſhing in her face*, *ſwelling of the noſe*, and an *inward heat*, ſuch as is commonly attributed to an *hot liver*. I do not attribute that *lacteſcenſe* in the firſt Ladies *blood* to the *mixture of new Chyle*, which Doctor *Lower* ſaith he hath obſerved in *Men*, and other *Animals*, being *phlebotomiſed* a while after meat, to create a *lacteous ſerum*: for I never *in all my life* was ſo happy as to *ſee that*, though I have *blooded my ſelf* on purpoſe two hours after dinner to make the *tryal*: and have an hundred times examined the *blood* of others who have been *blooded* at ſuch times as we might expect to ſee that *Phænomenon* of *his*. Yet hath the *reality of his obſervation* been confirmed unto me by other *credible witneſſes*: ſo that I queſtion not but *he* may have ſeen it; though I could not in *theſe Ladies*, who all dined together about *one of the clock*, and had *done bleeding* by four.

Dr. *Lower* de corde, c. 4. p. 217.

Neither may I paſs by this Obſervation, that of all the *Serum* which I have taſted, I never found any to be *bitter*, though I extracted ſome *once* that ſeemed ſo *bilious*, that being put into an *Urinal* none could know it from urine *highly tinged*: as ſoon as I ſet it on the *fire* it coagulated with a *leſs heat* than I imagine it to have had in the *veins*, and it exchanged its *hue* for the uſual *white*, ſmelling like a roaſted Egg. Yet doth *Van der Linden* ſay, that ſome have taſted the *blood* of *Icterical* perſons, and found it bitter. ‘ *Actu nihil naturaliter* ‘ *in ſanguine amarum eſt: Sed nec eſſe poteſt; reddet enim ſanguinem ineptum ſuo muneri; ceu obſervare* ‘ *eſt in Ictericis. In his enim ſanguinem amaricare ac-* ‘ *cepimus ab iis, qui & ipſum vena emiſſum, & urinam* ‘ *ejus guſtarunt, Aſclepiadio more.* And *Veſalius* gives us an account of one *Proſper Martellus*, a *Florentine* Gentleman,

Van der Linden diſp. Phyſiolog. 51. ſect. 19.

Andr. Veſalius de rad. *Chinæ*. p. 253.

Gentleman, much inclined to and troubled with the *Jaundise*, whose Liver was *scirrhous* (but *Spleen* sound) and his Stomach turgid with *choler*; and wheresoever he opened any of his *veins* they were full of *thick choler*, and the *fluid liquor* which was in the *Arteries* did *tinge* his hands as if it were *choler*. I find the like Observation in *Th. Kerckringius*: that an *Icterical* Woman brought forth a dead Child in the eighth moneth, which was so *yellow* all over, that it rather seemed a *Statue of such wax*, than an *humane Abortion*: being dissected By him, instead of *blood* in the *veins* there was nothing but *choler*, and all the *bones* were tinged with such a *yellow*, that one would have thought them *painted*.

Th. Kerckriegius Obs. Anatomic. 57.

The *Scholiast* upon *Ballonius* observed, that however the *blood* is naturally sweet, even such as upon obstructions from the *Menstrua* hath regurgitated and discharged it self at the *Gums of women*: (as they have told *me*) yet in one that was troubled with the *Green-sickness* the *blood*, though *florid*, was salt. "*Potest esse floridus color, & in se esse acrior & biliosior: unde quædam mulier* ὑπόχλωρος, *& ejusmodi prædita temperamento mihi affirmavit, siquando vel ex dentibus sanguis affluit, vel e capite, eum sibi gustum sentiri salsum & molestum.*

Ballon. Epidem. l. 1. p. 111. sect. 17.

When I was at *Barbadoes* we carried off several poor *English* thence to *Jamaica*, where many of them falling *sick*, and some being *well*, were let *blood*: I observed that in those *poor people*, which live upon nothing almost but *Roots*, and drink *Mobby* (a liquor made of *Potatoes* boyl'd and steep'd in water, and so fermented) that *their blood* did stream out *yellow*, and in the Porringer did scarce retain any shew of *red* in the *coagulated mass*: yet are they *well* and *strong*, but look *pale* and *freckled*: such persons (which are frequent in *Barbadoes*) are called *Mobby-faces*,

It

It were *infinite*, at leaſt beyond my *preſent leiſure*, to relate all that *variety* of *morbid blood*, which hath been obſerved in *ſundry diſeaſes*, and in *ſeveral perſons* languiſhing under the ſame diſtemper: as in *Pleuriſies*, the *Scurvey*, *French-pox*, *Hypochondriacal Melancholy*, and the like: wherein if it be true, as it is, that oftentimes *diſeaſes* vary in *individuals*, 'tis no leſs certain that the *blood* doth alſo vary in *them*: ſo that oftentimes ignorant *Phyſicians* do imagine a *greater corruption* in the *blood*, and a greater receſs from what is *natural to the perſon*, and a *greater danger* in the *diſeaſe*, or in the *practiſe of Phlebotomy*, than they need; yet in *Epidemical*, or ſome *Sporadical diſeaſes*, if the *Phænomena* be as *general* as the *diſeaſe*, 'tis certain then that the *reſemblance of the blood* argues a *reſembling cauſe*, which prevails over the *idioſyncraſy of particulars*.

I know it will be expected that I ſhould ſay ſomething about the *Controverſie* whether the *Blood* be one *Homogeneous liquor*, the recrements whereof make up the *four Galenical Humours*, which are no otherwiſe *parts* thereof, than the *Lees* and *Mothers* of *Wine* are *conſtitutive parts* thereof? Or whether the four *Galenical Humours*, viz. that which is properly *Blood*, *Melancholy*, *Choler* and *Phlegm* are the *conſtitutive parts* of the *Blood*, in its *natural conſiſtence* and *Craſis*? I ſhall ſay therefore about *this point* as much as may be requiſite to my *preſent purpoſe*.

Firſt I obſerve that the *Galeniſts* are at a difference whether the *Maſs of blood* contain *thoſe Humours* actually, or *only* potentially? ſo that one may hold according to *them*, that the *blood* is as *homogeneous* a *liquor*, as any *Neoteric* doth hold it to be, though it ariſe by the mixture of *their five principles*. Amongſt others *Eraſtus* hath a *diſputation*, in which he amply aſſerts,

asserts, that all those *Humours* when they are *actually* in the *blood* they become *excrementitious*, and are no longer parts *thereof*, but such as the ejectment thereof *depurates* and perfects the *other remaining blood*, which he confesseth to consist of *several parts* constituting *one body*, to which they are as *essential* as the *serous*, *caseous* and *butyrous* part are to *Milk*, which if they be deficient 'tis no longer *Milk*. *Nam ut non potest lac bubulum intelligi sanum & perfectum sine tribus suis partibus, sero, caseo & butyro, ita non potest sanguis probus animo concipi & definiri absque partium illa varietate.* *Fernelius* doth compare the generation of *Blood* to that of *Wine*, wherein the *Chyle* is supposed to resemble *Must*, which by *fermentation* separates and throws out such parts as are not *actually* in that *liquor*, but arise upon *fermentation* and are ejected several wayes: the more *crude parts* are *by time* digested, and then the *noble wine* brought to perfection: so he supposeth it to be in the *blood*: and thus though *all the humours* be at once as it were produced in the *Chyle*, yet are they no more parts of the *blood*, than the *Tartar* and *Mothers* are parts of *Wine*. Both these *Similitudes* of *Milk* and *Wine* to *Blood* were first I think introduced by *Galen*, I am sure he made mention of them, and so did his Successours; to *Mercatus*, *Fernelius*, *Platerus*, *Palleriaca*: then *Carolus Piso* began to carry the comparison *further* in his discourse of *Feavers*: and after him *Quercetan*: and since that our *learned* and judicious Countrey-man Doctor *Willis*. Others held that the *blood* as it flows in the *veins*, and is designed by Nature for the *Aliment* and other uses in man, is not to be understood as *one liquor* consisting of some variety of parts, yet united into *one similar body* (the rest whereof were to be *excrements*) but a more *confused Mass* of several distinct *Alimentary Humours*, which Nature never intends to unite into *one similar body*, but to continue in a certain more *loose* mixture, each

Erastus disput. 19. §. 62. 54.

Fernel. Physiolog. l. 6. c. 3.

Galen. l. 2. de elem. *Galen.* 4. de usu part. c. 4. & de nat. fac. l. 3. c. 13. *Valleriola* loc. commun. l. 1. c. xi. *Mercat.* Qu. 65.

each thereof retaining its *proper congruity* for the continuance of *life* and *health*. They do confess that there is a *pure crimson part*, *sweet* and *balsomical*, which they call *in rigour* Blood: but they say *Nature* never intended *this* for the *sole* vital liquor; because *she* never produceth it alone; or if it be ever seen so, 'tis in a *morbid condition*; as in *malignant Feavers*, where the αἷμα ἄκρητον, or *Blood* free from the *proportionate mixture of other Humours*, is reckoned amongst *evil* signs, *Qualis sanguis in malignis adurentibusque febribus solet excerni, aut e vena tunsa educi.* And therefore as none of the *Humours* are ever seen *alone*, any more than *Blood* is (for they hold *them all* to be *excrementitious*, when separate) so they conceive they *all together* in a *certain proportion* make up that *aggregate* called *Nutritive Blood*: and are all *actually* there, because *they* do observe that all of them at *sometimes* have their *distinct corruptions*, though they continue still in *one mass*; which they conceive *they could not have*, except they were actually there: They do conceive *them* to be so *there*, that the resemblance betwixt *Gall*, or *extravasated Phlegm* is but *Analogical*: so that they do not pretend to shew in the *Blood* a bitter *Gall*, or a *pontic arminonious Melancholy*: They will not allow these to be other than depravations of the *Alimentarious Humours*: and the sincere *alimental juyces* are no more pretended to be evinced by them; then the *pure Elements*, except it be *a posteriori*, by a *diversity of effects* arguing *different causes*. They saw there was a great *latitude* in the *blood* of *healthful men*, yet so as that the blood appeared with *different colours*, and consonant to the *colours* there seemed a variety in their *dispositions*, and other *corporeal qualities*: they saw the Mass of *blood* upon *perfrigeration* to go into *several substances*, and they intellectually disjoyned them *more*, for *doctrine-sake*; obliging themselves to produce *each Humour* in its *imaginary purity*, when the

Bollon. definit. Medic. p. 7.

the *Chymical* fire ſhould exhibite any body not *decompounded*, or the *Corpuſcularians* make more manifeſt *their configurations of Atomes*, or *Texture of Particles*.

Having thus ſtated the *Queſtion* with as much *perſpicuity* as I could: I purſue to enquire which is moſt *conformable to the effects in Phyſick*; for I will not undertake to determine what *God* and *Nature* do in the *production* or *mixture* of *bodies*: It is eaſie for a man to looſe himſelf *in thoſe inquiries*: He that made us can tell how we were made; our Argumentations are as *vain* as if one ſhould aſſert that a *Loaf of bread* conſiſted of *Cubes*, *Lozenges*, or *Trapeziums*, becauſe we can cut *it* into parts of *ſuch a configuration*. Let us but imagine a ſubtle *Chymiſt* to *analyſe* Chymically our *Ale*, if ever he *thereby* diſcover that it is the product of a *Barley-corn* growing into a *ſtem* and *grain*, then turned into *Malt*, *grinded*, boyled with *water*, and *fermented*; I will *aſſent* unto the Chymical reſolutions of blood: Phyſicians have been alwayes allowed hitherto to be a ſort of *groſs Artiſans*; and I remember *Maſſarius* ſomewhere calls it an *Hippocratical* demonſtration: Indicium autem Curatio. To *know bodies exquiſitely mixed*, and to mix them intimately, is a *divine attribute*: this laſt is avowed by *Galen*. *Miſcere corpora tota per tota, non Hominis, ſed Dei & Naturæ eſt opus.* Perhaps it may be replyed that the moſt *ignorant perſons* may ſay *thus much*: It is *true*, and if he ſpeak it knowingly, I confeſs I can ſay no more than he. *Sed quod dicemus objectioni illi? Ignarus æque ac Philoſophus deum cauſam omnium aſſignabit: Hoc ignarus* inſcienter, *Philoſophus* ſcienter *aſſignabit: quemadmodum Ariſtoteles ait de Parmenide & Meliſſ.: quem-*

De re ipſa ut neque dubites, morbi morborumq; curationes docent. Nimirum hoc eſt *maximum argumentum Hippocratis*, ait *Maſſarius*. *Van der Linden* diſp. Phyſ. c. 2.

Lacuna Epit. *Galeni* de temper. l. 1.

Franciſc. Sambes. de longit. & brevit. vitæ. c. x.

quemadmodum Cæcus *alicujus tunicam albam esse asse-*
rit. — *Nil scimus. Dicamus ergo. Primarum rerum,*
principiorum, aut elementorum causas reddere, nostri
non est captus: secundarum vero, utcunque. Id in
singulis quæstionibus experiri possumus.

I say then that *notwithstanding any allegations to the contrary*, it is manifest that *a certain proportion of salt, sulphur, and spirit, besides earth and water*, is neither requisite to *perfect sanity*, nor its defect *as to any particular*, the cause of diseases: and *this* is manifest out of the *constitution*, as well as *colour* of the *blood*, in *morbid* and *healthy* bodies, as appears by the *burning* and *distillation* of *blood*: There is much of truth that —— T. T. sayes, or *may be* so. *Now I am*
ready to discover in reference to miserable
man: that the pretended sanguine sulphur
or Cacochymy of any in an high Feaver doth
afford more salt, water and earth, each of
them, than sulphur. I have taken that
diseased blood termed corrupt, *which*
might seem to some to abound with sul-
phur, being clearly conveyed into a Retort
with a Receiver joyned thereto, I have by
a graduated fire regulated very strictly,
brought over what possibly I could. In the
upshot upon the separation of the several
parts, I have found very little sulphur in
comparison of each of the rest.

At another time I procured the purest
blood I could get from an healthful person,
putting it to the same igneous tryal, as the former dege-
nerate of equal proportion to it: then after sequestra-
tion of the parts, I could not perceive any considerable
difference in the quantity or quality of the several
parts of that found *and the* seemingly corrupt *blood.*

I have lately blooded a Woman which after a *Quartane* was troubled with obstructions of the *Spleen* and *Liver*, effervescences in the *Intestines*, *Asthmatic* paroxysmes, acute pains in her *head*, obtuse pains in her limbs, visible beginnings of a *Dropsie*; the blood at its issuing out seemed very *black*, but was pretty laudable in the porringer: it burned well, without any *crackling* or *immaiscence* almost: so did the *Serum*: Here the *salt* seems rather *defective*, than to abound, as it ought by *those principles*.

I do say that in the *Blood* of all persons that are in *health*, there is upon *Phlebotomy* somewhat that justifieth the *supposition* of the *Galenists*; but not which confirms the *Hypothesis* of the *Chymists*. The *coagulable serum* doth commonly represent their *choler* in part: the *florid fluid* red their *blood*: which if *lightly* washed away, their is another more *darkly-coloured* which is proportionate to their *Melancholy*: and if you wash the *fibrous mass* well, it will be *white*, and answerable to their *Alimentary Pituita*, or *Phlegm*. In this *last part* I have the concurrence of *Malpighius*, who upon washing all the blood from the *concrete Mass of blood*, found the remainder to be a *fibrous contexture* of a *whitish colour*, which he pitcheth upon as the materials for a *Polypus in the Heart*: And had he taken more particular notice of that *fluid blood* in the *cells* of those *interwoven fibres*, he might have discovered *two sorts of blood*, one that readily ascends, and is *florid*: the other more *black* and *faeculent* which moveth not: and both these stain the water they are washed into with *different reds*, the one much brighter than the other. That some *fibrous concretion* in some diseases, as *Rheumatisms* and *Pluriſies* covereth like a *pituitous mass* the surface of the *blood*, whilest *that* remains *fluid* and *blo kish* underneath: nay I have out of *healthful blood* in the *Spring* (I am almost convinced that the *blood* varieth with each quarter of the year) cast it up to the surface in *just such a mass* as covers the *top* of the blood in those *distempers*, by putting some *spirit of Hartshorn* into the *Porringer* before the party bled into it. I place the *choler* in the *serum*, not but that I know that it hath not the *taste* or consistence of the *excrementitious Bile*, but because *it* hath frequently the *colour of it*, and the *Urine*, and *Pancreatick juyce* (not to mention the *Lymphæducts*) are tinged with *it*, and

M. Malpighi de viscer. structura. p. 163. edit. *Londinens.*

In quibus superficies sanguinis durior est & candicans, subjectus sanguis in pelui sine fibris plane est putridus; imo vidi in hujusmodi, ne guttulam coloris rubri. *Bartholin.* de lacteis dubia. c. 3.

oftentimes have the *Sapor* of it: I am ſure that herein I have the *ſuffrage* of *Pecquetus* thus far, that the *choler* which is ſeparated in the *Liver* (and which tingeth the *Urine*) is extracted out of the *ſerum* of the *blood*, where it circulates firſt along *with it*, and is *percolated* out of it in the *place aforeſaid*. "*Et vero* 'nullibi per univerſas animalium ſpecies 'abſque bilis mixtura ſanguinem reperias: 'flaveſcens id ſerum falſumque teſtatur; 'niſi forſitan aliquot in ſuppoſitis quibus dul- 'cem mitior natura ſanguinem concoxit, ſi- 'cut & in aliis, quibus acciditatis expertem 'infudit, aut nullo prorſus liene inſtruxit, 'aut ſane perexiguo. I cite *him* the more willingly, becauſe that *If the Galeniſts ſeem infatuated for ſaying the Gall is a conſtitutive part of the maſs of blood*, (whereas they cannot *demonſtrate* ſigns thereof by its bitterneſs) a great part of *the ſcorn* may fall upon *Pecquet*, *Bachius*, and *Sylvius*, *de le boe*, and other *Neoterics*, who hold it is incorporated in the *Maſs of blood*.

Vide *Pecqueti* Diſſertat. Anatomic. de circulat. ſanguin. c. xii. Videtur humor felleus ſanguini firmiter adhærescere; quod in ſeri illius parte fundatus ſit, nec facile ab illo, intra ulteriorem præparationem ſeparari poſſit. *Charleton*, œconom. Animal. c. 7. ſect. 16.

But theſe Controverſies can be no better decided than by an Enquiry into the Generation of Blood, how that it is at *firſt* begun, and *afterwards* continued: the knowledge *whereof* will conduce much not only to the deciſion of that Queſtion, *Whether there be in Nature* any foundation *for thoſe Galenical Humours, that they are* conſtitutive parts *of the Maſs of Alimental Blood?* But alſo to the main debate in hand Concerning Phlebotomy.

There is not any thing more *myſterious* and *wonderful* in the *Univerſe* I think then the *production* of *Creatures*: In ſo much that *Longinus* a Paynim doth hereupon take occaſion to celebrate the judgment of *Moſes*, in that He repreſented the *Creation* by a Divine FIAT, and *God ſaid let there be——and it was ſo.* The *Mechanical* production of *Animals* from ſo *ſmall* and

and *tender rudiments*, out of a *reſembling ſubſtance*, in all that *variety* which we ſee, by a *neceſſary reſult of determinate Matter and Motion*, is ſo incomprehenſible and *impoſſible*, that were not *this Age* full of *monſtrous Opinions* (the conſequent of *Ignorance* and *Inconſiderateneſs*) one would have thought *no rational Men*, much leſs *Chriſtians* would have indulged themſelves in the promoting and propagating *ſuch Tenets*. 'Tis an *effect* of that *Soveraign command* that every thing hath its *being* and *faculties*; "*Quin nil aliud* "*eſt Natura, quam juſſus ille Dei, per quem res omnes hoc* "*ſunt quod ſunt; & hoc agunt quod agere juſſæ ſunt.* "*Hic, inquam, non aliud quicquam, cuique rei ſuam dedit* "*ſpeciem & formam. Per hunc non agunt modo pro* "*ſua natura, hoc eſt, prout preceptum eſt ipſis, res creatæ* "*omnes, ſed per eundem reguntur, conſervantur, propa-* "*gantur: Et nunc etiam quaſi creantur.* This is *that* which gives a beginning to the *Fœtus* particularly, and by unknown wayes contrives the *ſeminal vertue*, its *receptacle* or *Egg*, and that *colliquament* out of which *the Body is formed*. Becauſe the firſt *rudiments* of *conception* are tender and *minute*, ſuch a proviſion is made in order thereunto, that the *albuginous* ſubſtance of *ordinary Eggs* is no other than what is derived into the *female womb*: And if *we* may continue the *compariſon*, it will ſeem moſt rational to imagine, that the parts of the *whole* are contrived at *one time*, though they neither appear all *at the ſame*, nor in [a *proportionate bulk*; for in ſome their *minuteneſs*, in others their *whiteneſs* and *pellucidity* conceals them from the Obſerver: But that even then there are exerted the *preludes* of thoſe *vital operations* which are ſo viſible after in *Nutrition*, I doubt not: and that as in the *Coates of our eyes* the minute *veins* and *arteries* convey their encloſed *liquors* (though undiſcernable except in Eyes that are *blood-ſhotten*) and as in the *brain* there hath been diſcovered *veins* by ſome drops of blood iſſuing

Eraſtus diſput. de propriet. Medic. c. 15.

This is the opinion of Dr. *Highmore*, *Velthuſius*, *Courvee*, and *Everartus*.

in

Jo. Jac. Wepfe-rus de apopl. p. 92. &c. Euſtachius de dentil. c. 20. Th. Kerking. Obſ. Anatom. c. 26.

in *diſſection*, though no *Eye* can ſee moſt of the *capillary veſſels*; and as even the *veins* and *arteries* themſelves are thought to be nouriſhed by other *arteries* and *veins*, rendring them that ſervice which they do to the more *viſible* parts: even ſo it is in the *firſt formation*, wherein after ſome *progreſs* the veſſels begin to appear, and *blood* firſt diſcovers it ſelf in the *Chorion*, and thence continues its progreſs to the *punctum ſaliens*, or *heat*, and undoubtedly proceeds in its *Circle*, though the *ſmalneſs* of the veſſels (as in other caſes) conceal the *diſcovery*. So that we may imagine that the *Plaſtick form* (or whatever elſe men pleaſe to call *it*) doth produce the *blood* out of that *albuginous liquor* (which ſeems as *diſſimilar* as the *blood* out of which it is derived, though the parts be *providentially* more ſubtiliſed, and *refined*) by its *own power* (as it doth the reſt) through the aſſiſtance of *warmth*, and concurrence of the contemporary *fabrick*: for the *firſt blood* can neither give a beginning to *its ſelf*; nor is it comprehenſible, how the *weak impulſe* thereof ſhould ſhape out all the *veins* and *Arteries* in the *body*, according as *they are ſcituated*. Out of which it is *evident* that the Soul or Plaſtick form doth at firſt *reſide* and principally *animate* in the *Spermatic parts* (ſo called not that they are *delineated* out of the *Sperme*, but out of the *Colliquament*, which is *Analogous* to *it*) and that *they* are *her* firſt work; the *blood* is but the *ſecundary*, and generated out of the *Colliquament* (for other *Materials* there are none) by the *Plaſtic form* which is the proper *efficient* thereof, and beſides the *Auxilary Heat* there are no other *inſtrumental aids* but the *ſpermatick veſſels* wherein the *Colliquament* at *firſt* flows to the *punctum album*, which when *blood* is generated do become the *Heart* and *ſanguiferous Channels*. This is avowed by Doctor *Gliſſen* himſelf:

D Highmore's Hiſt. of Gen. c. 5.

Gliſſon. Anat. Hepatis c. 35. t

"*Liquor hic vitalis, antequam ſanguinis ruborem induit, ſeſe a reliquis ovi partibus (quibus promiſcue commiſce-*

"*tur*)

tur) ſegregare incipit, & in rivulos ſeu ramificationes quaſdam excurrere, quæ poſtea venas evadunt. Rivuli iſti in unum punctum coeuntes, in eum locum conveniunt, qui poſtea punctum ſaliens & cor appellatur. Idque fieri videtur, diu antequam ſanguinis aliquod veſtigium compareat. Herewith agree the moſt *exquiſite Obſervations* of Doctor *Highmore*. Moſt certain it is by the *Hiſtory of Generation*, that no *Parenchymatous* part hath any operation in the firſt production of the *blood*; all their *Parenchymas* being *poſt-nate* thereunto. And if the *blood* be thus generated at *firſt*, it is but rational for us to imagine that it is *alwayes* ſo generated during *life*: For as it is true that *the ſame cauſe acting in the ſame manner will alwayes produce the ſame effect*: So in this caſe to argue *from the identity of the effect to the identity of the cauſe*, is allowable. *Eſt enim cauſarum identitas quæ facit ut effectus ſit idem: quippe effectus ſupponitur non eſſe, donec a cauſis exiſtentiam ſuam indeptus fuerit; & dum exiſtentiam illam largiuntur, oportet ipſius quoque identitatem impertiant, qua ſine effectus ipſemet nequaquam fuerit*, That the *Spermatic veſſels* in which the *blood* moves do contribute to *ſanguification* much, ſeems apparent from hence: that the *blood* is ſeen in them *before* it is in the *heart*: And becauſe it is obſerved that the fluidity *of the blood* ſeems to depend much on them; and therefore in the *dead* it doth not *coagulate* (except præternaturally) in the *veins*, though it do commonly in the *Heart*, or whereſoever it is *extravaſated*. "*Manat præterea aliquid a venis nobis incognitum, quod dum earum ambitu ſanguis concipitur, prohibet ejus concretionem, etiam poſt mortem in cadaveribus jam perfrigidis, nequis hoc colori acceptum ferat: quod vero coralliorum inſtar aliquando repertus eſt concretus in venis ipſis, hoc merito Fernelius aſcribit morbo occulto.* And not only the *fluidity* but motion of the *blood* ſeems to depend much *thereon*: for if by a *ligature* the impulſe and ſucceſſion of blood be prevented,

Dr. *Higemore* hiſt of Gen. c. 8. p 69, 70.

Gliſſen. Anat. Hepatis. c. 35.

Greg: Horſtius inſtit. Medic. diſp. 3. Coron. 1. Append. concluſ. 4.

Berigardus Circul. *Piſan.* 1. part. 6. circ. 7.—Aperta namq; in cadavera vena, ſanguis profluit. *Ent.* de circul. ſang. ſect. 137.

prevented, yet will the *blood* in the *veins* continue its course, and not *ſtagnate*. *Exempto e corpore corde, motus tamen ſanguinis, iſque ſatis celer in ſanis videntur. Et ſi vena nulla, etiam lactea, duobus locis ligetur, laxata ea ſola ligatura quæ cordi propinquior eſt, dum partes adhuc calent, ſemper Chylus ad hepar, ſanguis ad cor cum movebitur: qui nec a corde per Arterias, nec ab inteſtinis per lacteas, objecto potuit obice propelli: nec fluiditate ſua potius ſurſum quam deorſum movetur.* The truth hereof ſeeming undeniable to *Pecquet*, he makes uſe of a new *Hypotheſis* to ſolve *this motion* of the blood, as if it aroſe from *compreſſion of other parts*, or *contraction* in the vein it ſelf: But the *Phænomenon* will appear in ſuch caſes as admit not *this pretence*. From theſe reaſons it is that the *blood* doth not need ſo much as any *pulſe* in the *veins* and *arteries* (as appears in the firſt *fœtus*) but as ſoon as it comes to the *Heart* it does (to prevent *coagulation*) the *punctum ſaliens* (being endowed with no ſuch quality) practiſeth its *ſyſtole* and *diaſtole*, when yet no ſuch motion is obſervable in the *Arteries* at that time. Whence the *colour* of the *blood* ariſeth, is a ſecret unto me: I know that digeſtion reduceth ſome Juyces to a redneſs: in ſome Fruits the fire doth the like: in ſome the mixture of acid Liquors begets a *Vermilion*: But here I conceive none of theſe cauſes produce the effect; the generation of the *blood* is manifeſtly an *Animal Action*, and, as ſuch, unſearchable. Whatever I attribute to the *veins*, it is not to be expected that ſuppoſing they ſhould *inſtrumentally* ſanguifie, the blood ſhould turn *blew* from *them*, any more than that water put into new veſſels of *Oak* ſhould turn *white*, whereas *it* becomes *reddiſh*. Thus the *Plaſtic form* produceth *blood* at firſt, and whileſt there is no *firſt concoction* in the *ſtomack*, ſupplieth that defect by that *albuginous Colliquament* which is of the ſame nature with the *Chyle* we digeſt our meat into, and convey by the *Lacteous Thoracidacts* into

Wolæus de motu ſang. epiſt. 2.

Pecquet diſſertat. *Anat.* de circulat. ſang. c. x.

into the *Heart*. That it is of the *ſame nature* appears hence, that it reſembles *it*, and that it is extracted from the Blood of the *Mother*; and produceth in the *Embryo* the like excrements of *Choler*, and *Urine*, and *Mucoſities*; nay it hath been obſerved by *Riolanus* to have been tinged *yellow*: How much more may be concluded hence in favour of the *Galenical alimentary humours* ſuppoſed to conſtitute the *Blood*, I leave thoſe to judge who conſider the variety of *female conſtitutions*, and their condition during their *being with child*: perhaps the *Hypotheſis* of a proportionate mixture of the five Chymical Principles will not ſeem more *colourable*?

Riolanus Anthopogr. l. 6. c. ult. p. 411.

Having thus related how *Sanguification* is performed in the *Fœtus* at firſt; I come to give an account how it is performed *afterwards*; and even here it ſeems an *Action* perfectly *Animal*: for even *Concoction* in the *Stomach* is not the bare effect of heat *elixating the meat*; nor of *acid* or *ſaline Ferments* diſſolving it; nor of any other kind of imaginary *Fermentation*: But 'tis the effect of an Animal power operating upon the Meat in the *ſtomachs* of *ſundry Men* and *Animals* by *ſeveral wayes*: This appears moſt evidently herein, that the *ſame meat* eaten by *ſeveral Perſons*, or *different Animals* produceth *different Blood* and *different Excrements*: therefore *Chylification* is an *Animal operation*, and is modulated by the *ſpecifick* and *individual* conſtitutions. Having thus determined of things, that the *Soul* in all theſe actions is the *Efficient*, we may conſider that the *meat* being *maſticated* in the *mouth*, and commixed with the *ſalival juyce* or *ſpittle*, is prepared in order to *Chylification*: then it deſcends into the *ſtomach*, and is *there* (ſometimes in a longer, ſometimes in a ſhorter ſpace) reduced into a *cremor* which is ſo far from being *acid* (as *Helmont* ſaith) that it is *generally* rather *ſaline*, as are alſo the recrements of it that remain in the empty *ſtomach*: It is true that according

Concerning *Concoction in the ſtomach* ſee the excellent diſcourſe of *Mœbius* de uſu ventriculi *ſundam. Medic.* c. x where he reſolves it is done by an *Animal heat*, or *Spiritus vitalis vegetos calore prædictus*.

Vide *Mœbium* ubi ſupra: & *Kerger.* de ferment ſect. 3. c. 2. p. 200, 201.

cording to the *ſtomachs* of *Individuals*, and the *meat* they eat, it happeneth ſo that this *Cremor* hath no certain *taſte*, nor *colour*: Undoubtedly it muſt have been *bitter* in that *Marriner* (and ſuch as *he*) of whom *Veſalius* writes, that the *Gall* did naturally diſcharge it ſelf into his *ſtomach*, yet did he digeſt very well, and never was apt to *vomit*, or to be ſo much as *ſea-ſick*. From the *ſtomach* the *Cremor* deſcends into the *Inteſtines* (not *all at once*, but as it is digeſted) and there undergoes a *ſecond digeſtion* receiving into its *mixture* the *Gall* and *Pancreatick juyce*: I ſhall not ſpeak of the *variety* that hath been obſerved in thoſe *two liquors*, nor trouble my ſelf about the manner how *they operate* on the *Chyle*: It is manifeſt that upon that mixture the *Chyle* ſuffers a great alteration (if not ſome *effervеſcence*) and ſome parts are *coagulated* and as it were precipitated, and by a *ſucceſſion of changes* the ſeveral particles are ſo blended, and refracted in their *qualities*, that the excrements at laſt are neither *acid*, nor *bitter*, but (in *dogs*) both *ſapors* are extinguiſhed. In the mean time, during this deſcent of that *miſcellanes* the *lacteous veſſels* do imbibe and convey the *Chyle* in the ſhape of *Milk* to the *Receptacle*, where mixing with the recurring *Lympha* (which is ſometimes *yellowiſh*) it paſſeth through the *Ductus Thoracicus* unto the *Heart*; and in the *Subclavian* vein aſſociating with the *Blood*, it paſſeth along with *it*, ſupplying the continual *decay of the Blood*, and yielding Nutriment to the parts, and *new* matter for *excrementitious humours*: yet ſo as that it is not all tranſmuted into *blood*, or *perfected*, at *one paſſage* through the *Heart*, but by repeated *Circulations*, whereby it comes to looſe its *lacteous colour*, and contract a more *ſaline taſte*, as well as a *ſerous limpidity*, or ſome more *degenerate colour*: yet it is ſtill *coagulable* (except in a *morbid ſtate*) like to the *white of an Egg*, as the *depurated Chyle* is. It were eaſie to purſue this diſcourſe ſo as to demonſtrate

Veſalius de fabric. hum. corp. l. 5. c. 8.

Reuſnerus de urinis, c. 3. p. 42.

Dr. *Needham* deformat. fact. p. 101, 102.

Dr. *Lower* de corde. c. 5.

demonstrate that neither the *separation of the Urine* in the *Kidneys*, nor of the *Gall* in the *Liver*, nor of the *Spittle* in the *Glandules* are other than *vital Actions*, wherein the *same form* which at first *shaped the Body* is principal Efficient, and that in these *Operations* there is somewhat more than *percolation* of corpuscles *differently seised*: But I shall conclude this discourse by accommodating of *it* to the defence of the *Galenical Alimentary Humours* supposed to constitute the Blood. It is manifest in this *History* of *Sanguification* that the *Pituitous liquor* which is derived into the Mouth by the *salival vessels* is most agreeable to that which is by the *Galenists* called *Phlegme*: it is not like the *serum in the blood*, for it is not *coagulable*, as the other: 'tis *insipid*; and as it makes so considerable a part of the *chyle* in the *stomach*, so it may well be *presumed* to continue its *intermixture* unto perfect *Sanguification*: As for the *Gall*, as its *intermixture* in *great quantities* with the *Chyle* is undeniable, so 'tis not improbable that it gives a fluidity to the *Chyle* beyond what it acquires in the *stomach*: thus *Painters* to make their *colours* and *oyls* more *fusile*, and accommodated to their use, do mix *Gall* therewith. That upon the *mixture* it should loose its *bitterness* and become *sweet* and *alimentary* is most agreeable to the *Galenists*, and no *wonder*: for the *sapors* as well as *colours* of liquors are easily altered: and 'tis manifest that this happens in the *descent* of the *Excrements* through the tract of the *Intestines*: and why not in the *venæ lacteæ*? there are signs of *it* in the *flavidity* usually observed in the *Arterious blood*: and 'tis remarqued by Judicious *Mæbius* concerning the *blood*, that it is not Homogeneous, "*Habet enim sua stamina, & nigricantes fibras: habet serum salino principio imbutum ad putredinem eludendam: habet partem subtiliorem splendente rubore excellentem, superficiem in extravasato cruore ambientem: Et hæc in recessu videtur custodire BILEM ALI-*

Platerus Quæst. Physiolog. 17.

Mæbius fundam. Medic. c. 14. p. 339.

'*MENTAREM*, *flavidine ſub inſigni rubore abſcon-*
'*dita. Quæ ex rubro nigricant, flavedini ſi miſcean-*
'*tur, talem ſplendentem ruborem exhibere, cuivis cla-*
'*rum eſt.* The bitterneſs which *it* hath is produced
Mabius ubi ſupra. p. 338. by the *Liver* upon its *ſeparation* there, which is not done by *meer percolation*, but an acceſſional of *tranſmutation* there. As for *Melancholy*, how much the *Pancreatick juyce* reſembles *that* (when it proves not to be *bilious*, as *Veſlingius* and *Virſungus* alwayes obſerved it to be) let any man judge by what *Regnerus de Graeff* hath moſt ingeniouſly written *thereof*: beſides that the more *black* part of the *blood* ſeems as *eſſential* thereunto, as the *more bright* Red. But the *Degeneration* of the *Blood* into thoſe *Excrementitious Humours*, ſeems to evince as much as the *Galeniſts* pretend unto; *Since every thing is not produced out of every thing, but out of determinate matter*: 'tis not incongruous to imagine that in the *due conſtitution of the Blood* there is an *Analogical difference* of *Alimentary juyces* to make up good *Blood*, ſince there is ſuch a *diſcrepancy* in thoſe *depurated* from it; upon which the *Soul*, by the *innate temperament* of the parts *ſeparating*, doth ſo *operate* that its effects are *modified* by the nature of the *ſubject matter*: Hence that *variety* in the *taſtes* of *Urine*, which is *ſometimes* ſo *bitter* that *Gall* doth not exceed *it*: ſometimes *ſweet*; ſo that *Fonſeca* relates of a *Portugueſe* Peaſant, who by the *ſweetneſs of the Urine* would tell who were *infected with the Plague*.
Fonſeca de Excrement. c. de Urin.

The *Gall* appeared in great variety to *Veſalius*:
'' *Longum ſane eſſet, ea que in quibuſdam tertiana &*
Veſalius Examin. obſ. Fallop. p. 191. 'quartana laborantibus, & dein ſuſpendio aut capite
'plexis, in furiis & mania oppreſſit obſeſſis, in melancho-
'lia morbo effectis, ex variis febrium (quæ continuæ
'fuerunt, & rigorum & ſudorum inordinatos circuitus
'faciebant) generibus extinctis, fædo ictero, eoque va-
'rio vexatis, malo habitu diu preſſit, & dyſenteria cru-
'ciatis,

ciatis, ſubinde reperi, modo commemorare: Sive ſcilicet hic inſignem bilis nunc flammæ, nunc atramenti quo ſcribimus in modum atræ, ſive albicantis propemodum colorem (qui fere conterminas partes inficeat) ſive fluidam, aut luti modo, aut unguenti cujuſdam ex farinis & melle & terebinthina apparati ritu conſtentis ſubſtantiam, ſive varias calculorum effigies, ſive bilis veſiculæ molem inſtar duorum pugnorum ob contenta tumidam, ſive omnis bilis defectum, recenſerem. Quæ omnia me de hujus veſiculæ natura adhuc magis quam antea habent ſolicitum, As to the *Pancreatick juyce* its *variety* is no leſs *obſervable*: So for the *Phlegm*, and *Blood* it ſelf.

Regner. de Graeff de ſucco pancreatit. §. 65.

Having ſaid thus much in behalf of the *Ancients* againſt ſome *Dullmen* of this Age, who laugh at any one that mentions but thoſe *Humours*, I might proceed to demonſtrate *practically* their *ſeveral motions* in *diſeaſes*, and juſtifie the *Medicinal Documents* created thereon by *ſuch inſtances* as countenance thereunto: But the *digreſſion* would be *exceſſive*; I return therefore to the *principal Diſcourſe*, and ſhall from what hath been ſaid erect an *Hypotheſis* concerning *Plebotomy* which will *authenticate* the *received practiſe*, which is ſo *judiciouſly* and happily followed by all *prudent men*.

1. If it be true, that there is ſo *great a Quantity* of *Blood* in the body, as I have evinced, then may we very well ſuppoſe, that the *loſs of a few ounces* is no *great dammage* to the Patient.

2. If it be true, that ſo *great effuſions* of Blood have happened to ſeveral perſons

ſons without any *ſubſequent prejudice*: If it be true, that *large Phlebotomy* even *uſque ad Lipothymiam* hath been *ſucceſfully* practiſed; then is it evident that our *partite* and *diminute Phlebotomy* may be *ſafely* continued: and that *whatſoever ill effects* follow *thereupon*, the default is not to be aſcribed to *Blood-letting*, but to the indiſcretion of him that *ignorantly* made uſe of it, or the *unknown* idioſyncracy of the Patient, or the over-ruling *Providence* of God which diſappoints frequently the moſt *rational* and *beſt Methods of curing*. *Quædam ejus ſunt conditionis, ut effectum præſtare debeant: quibuſdam pro effectu eſt, omnia attentaſſe, ut proficerent. Si omnia fecit ut ſanaret, peregit Medicus partes ſuas: etiam damnato reo, Oratori conſtat eloquentia officium, ſi omni arte uſus ſit.*

Seneca de benif. l. 7.

3. If it be true, that there is ſo great a *variety* and *diſcrepancy* in the *Blood*, then is there no *ſecure judgment* to be made of the

the *Blood* iſſuing out of the *vein*, either to the *continuing* or *ſtopping* its *Flux*: But the *Phyſician* is to proceed according to the *Rules of Art*; and accordingly as *they* direct him, may he *promote*, *ſtop*, or *repeat* the *evacuation*: A ſeeming *Cacochymy* in the *Blood* doth not impede *venæ-ſection*, nor call for *purging*, and *rectifying*: Nothing is *evil* that is *natural* to a man; but real *Cachochymy* or *redundance of Humours* offending Nature, this doth call for our *aſſiſtance*, and requires ſometimes *Phlebotomy*, and ſometimes other *Medicaments*.

4. If it be true, that *Sanguification* is an *Animal Action*, if it be true that the *Plaſtick form* is in being before the *Blood*, and produceth *it*, and the *whole Fabrick*, and *ſubſequent operations*; and that the *motion* of the *Heart* is proved by Doctor *Lower* to depend upon the *Nerves* during life: then is there no ſuch *ſtrict connexion* betwixt the *Soul*, *Life*,

Life, and *Blood*, as——*G. T.* doth fancy.

5. *If* it be true that the *Blood* doth continually *waſte* and *ſpend it ſelf*, in *Nutriment* and *Excrements*; then is it manifeſt not only that the *loſs of a little Blood* partitely taken away is not the *loſs of life*, or *prejudicial* thereunto. Neither doth it follow that the *loſs of Blood* in a *moderate quantity* is any imminution of the *vital Nectar*: it is neither the *chief reſidence* or *ſeat of the Soul*, nor in a *determinate quantity* requiſite to the *continuance of Life*, but comes under a *great latitude*: *I*t abounds more in ſome ſeaſons of the year, and times, than at others: and why may not *Artiſts* imitate *Nature* in *diminiſhing* its redundance upon occaſion, as *ſhe* does? As long as he proceeds not to exhauſt *all*, or *too much*: The loſs is *eaſily* repaired upon *convaleſcence*, and the *qnantity* is more than can be governed by *Nature* in ſickneſs; 'tis but the obſervation of

of a *Geometrical proportion* in ſuch a *Phlebotomiſt.* The ſame *Agent* will produce the ſame effects: if *Nature* be corroborated, and the vitiated *tonus* of the *concocting* and *diſtributing* veſſels be amended, there is no fear of wanting a *new ſupply* proportionate to the exigence of the Patient. The *Blood* we take away is no other than what would be *expended* or exhauſted *naturally* within a few hours, or dayes, as the *Staticks* ſhew: and it muſt needs be conſidering the *quantity* of *Chyle* which flows into the veins upon *eating* and *drinking.*

6. If it be true, not only that *Nature* doth thus *expend* in *tranſpiration* and *Excrements* as well as *Nouriſhment*, much of the *Blood*, and repairs her *defects* by a new *ſupply* (whereby *Life* is continued, not impaired) ſo as that the *melioration* of the *following Blood* is rather evident in his firſt years by his *growth*, *vigour*, *ſtrength* and *intellectuals:* But alſo that She doth of

Botallus de venæ ſect. c. 15.

her ſelf make *men* and *women* apt to *bleed* at *ſome times*, *ages*, and *ſeaſons* (which is known to all) then is not the *effuſion* of this *ſolar liquor* ſo *unnatural* a thing, nor ſo *homicidial* an Act, as 'tis repreſented. 'Twould ſeem a ſtrange *Law* that ſhould puniſh every *Boy* that breaks the *Head* or *Noſe* of another as a *Bronchotomiſt*, or *Cut-throat*.

Hippocrat. ſect. 3. Aphor. 27. 20.

If it be true, that *Nature* doth oftentimes *alleviate* even in the *beginning*, and in the end *cure Diſeaſes* by *ſpontaneous evacuations of Blood*, at the *Noſe*, and *Uterus*, by *vomiting* and *ſtool*, then a *Phyſician*, whoſe buſineſs it is to *imitate Nature* in her *beneficial Operations*, is ſufficiently *authoriſed* and *impowered* to practiſe *due Phlebotomy*, by the *beſt of Preſidents*.

Having premiſed *theſe Concluſions*, which are all *either proved* in the foregoing diſcourſe, or *evident* in themſelves to all underſtanding men: I ſhall proceed to give an account of the *Reaſons* why *Phyſicians* do ſo *frequently* and in ſo *many Diſeaſes* practiſe *Blood-letting*;

ting; and those deduced from its *variety of effects in Humane bodies*: For it is not a *single Remedy* subservient unto one *Indication*, or *End*, but conducing to *many*, and therefore made use of upon *several occasions* to different intentions. *Vtile est id remedium ad quamplurima, & vix potest in ullo magno morbo non esse aliquid, cujus gratia utile sit.* Valles. Meth. med. l. 4. c. 2.

Before I come to *particulars*, it is necessary I tell you that in the *cure of all diseases* Physicians propose unto themselves sundry considerations: they regard the *disease*, the *antecedent causes*, and the *symptomes* which *attend* or will *ensue* thereupon either *generally*, or in such an *individual constitution*: they employ their cares to *prevent* some inconveniences, as well as to *redress* others. Some remedies they make use of because they are *necessary*; of some, because they are *beneficial*, yet may the disease ('tis granted) be cured *otherwise*, in case the Patient have a *reluctancy* thereto, or for some *private reasons* the Physicians esteem it fitting to alter their course. Upon this account 'tis assented unto, that many distempers *may be cured without Phlebotomy*, which yet are *ordinarily* cured with *it*, or may be so: And herein the *disagreement of Physicians*, or *different procedures* are all according to their *Art*, nor is it denied but that *All of them may atchieve their ends by their several Methods*. So that it is a gross *paralogisme* for any one to conclude *this* or *that Physician* is mistaken, or takes a wrong course, because *another* takes or prescribes a *different one*. All the Physicians in *Spain*, *France* and *Italy* do not bleed with *equal profuseness*: In *Germany* and *England* some do practise more frequent *Phlebotomies*, than others do: and *neither of the parties* do erre, in case the other *remaining Method* be inviolately observed. It is in *humane bodies* as it is in the *body Politick*, where there is a *Method of ruling*, though it be carried on by *several* wayes

and means; and whilſt each *States-man* doth prudentially ſway the Government, procuring *peace* and *plenty* to the ſubject, his conduct, though it vary from that of his Predeceſſour, is not to be blamed. It is not to be doubted but that many *grievous diſtempers* are cured by *Nature*, without the uſe of any remedies at all: Yet will no *wiſe man* adventure his life on ſuch *incertainties*: 'tis not to be denied but ſome are cured with *fewer Remedies* than others are: But yet 'tis not *prudence* to put Nature upon *too great a ſtreſs*, or to account all means *unneceſſary* which are not *abſolutely requiſite*, or without which the *effect* may (though with *more difficulty*, and *hazard*) be brought to paſs. It lyeth upon the Phyſician therefore to purſue *all thoſe means* which may *ſecure* the life of his Patient, to *alleviate* the diſeaſe in its courſe by preventing all *troubleſome* and mitigating all *dangerous* ſymptomes, and to *facilitate* as well as haſten *his recovery*. It is not queſtioned but Patients *have been* and *may be* recovered of Feavers with *little* or no *blood-letting*; yet when I conſider the *great hazard* they run in *that courſe*, the *vexatious* and *perillous ſymptomes* which they languiſh under *longer* and with more *violence* than others, I cannot approve of the *practiſe*, nor think the *Phyſician* diſchargeth his *duty* and a *good conſcience* in ſo doing: *Extrema neceſſitas in moralibus, ut certum eſt, vocatur, quando eſt probabile periculum*: and the *Patient* doth offend againſt himſelf, if he refuſe to take a *befitting courſe* againſt dangers that *probably* are impending: and the *Phyſician* doth treſpaſs againſt *his neighbour*, if he do not propoſe and practiſe ſuch a courſe. "I

Riolanus de circulat ſang. c. xx. Anthopograph. p. 585.

"cannot (to uſe the words of the incomparable *Rio-*
"*lanus*) I cannot without *pity* to the ſick, and ſome
"*reſentment* againſt the *Phyſician*, read in *Platerus*'s Ob-
"ſervations, how ſundry of his Patients were broyled
"and torrefied with *burning Feavers*, whom he never *let*
"*blood*. He doth relate of himſelf, how he was ſick of

Platerus Obſervat. l. 3.

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'a moſt *burning Feaver*, yet did he never ſo much as let 'himſelf blood therein, albeit that it were *requiſite* in 'thoſe caſes. Such are not obliged to their Doctors, 'but peculiarly to the *Divine Providence* for their re-'covery.

It was the *mature* conſideration of that tenderneſs wch is requiſite in *Phyſicians* towards their *Patients* which advanc'd the *preſent courſe of Phyſick* to its glory above all other *Methods*: it being endeared to our eſteem by all thoſe regards that repreſent it as *prudential*. It was not introduced by *chance*, or the *ſubtlety* of ſome perſons, but the *choice* of all, and ſo eſtabliſhed by the *Magiſtracy*, that to tranſgreſs againſt the *traditions of this Art*, was *criminal* in a *Phyſician*, even by *our Laws*. It may in *ſome caſes* ſeem to be *troubleſome* and *unpleaſant*: yet SAFETY requires *it*: It may ſeem *tedious* ſometimes by *multiplication of Medicines*; yet Prudence obligeth by *all thoſe means* to preſerve and ſecure life; and if the *omiſſion thereof* be *criminal* in a Phyſician (in caſe of any *ſiniſter accident*, why is not the practiſe laudable? Would Men but ſeriouſly conſider *How much danger they run*, and *How much more they ſuffer* upon the *negligence* or *indulgence* of a *Phyſician*, who leaves all to *Nature*, and adviſeth them to *wear out a diſtemper*, they would rather *hate*, than *love* ſuch a Man; and the apprehenſion they ſhould have for the unneceſſary jeopardy he put them on would extenuate *his credit* very much: The moſt *raſh* and *brutiſh* counſels may ſucceed well; but yet the moſt prudent are to be preferred.

Amonſt *Phyſitians* (I do not reckon the *Helmontians* as any) there is no doubt but a *Plethorick indiſpoſition* requires *Phlebotomy*; Nature being ſurcharged with *blood* forceth us thereunto, leaſt ſome vein ſhould break in the *Lungs*, or the Patient be ſtrangled with *that exceſs*: this is called *Plethora quoad vaſa*: when the veſſels are ſo full of blood, that there

is

is danger of their *breaking*, or that the *blood* ſhould *ſtagnate* in the *Heart*, *Lungs* or *Head*, there wanting *room* for its *motion:* or take ſome *inordinate courſe*, and ſo *ſtrangle* the Patient.

There is another *redundancy of Blood* which is called *Plethora quoad vires*, or ſuch a *plenitude of blood* as brings along with it no *apparent hazard* of breaking the *veſſels*, yet doth it *oppreſs Nature* ſo as thereby to become *redundant:* It is more than *ſhe* can bear in the *preſent juncture*; 'tis more than ſhe can *rule*, and it will ſuddenly fall into an *exorbitant motion*, to the detriment of ſome *principal part*, in caſe timely *prevention* be not uſed. In both theſe caſes (in which the *blood* is not ſuppoſed to be much *depraved* from its *natural eſtate*) all do allow of *Phlebotomy*, and if it be timely put in execution, *it may hinder the progreſs*; however *it expedites the cure* of the diſeaſe. In theſe caſes we conſider not only the *preſent plenitude*, but alſo the *future*, what may be in a few dayes, to the great *exaſperation* of the diſeaſe, and *peril* of the Patient: For it is poſſible that in the firſt beginnings of a diſeaſe there may be neither of theſe *plenitudes*, but they may enſue a little after: For when the *inſenſible tranſpiration* ſhall have been a while abated (as *inquietude*, *pain*, and *watching* will abate *it*) the *Blood* degenerates, and no longer continuing its uſual *depuration*, thoſe excrementitious particles which were lodged in the *habit of the body* and *pores* do remix with the *ſanguine maſs*, and become like ſo many *fermentative corpuſcles* agitating and *attenuating* the blood, ſo that whereas before there was no *plenitude*, now there is: that the *excrementitious particles* do contract a *fermenting heterogeneous* quality different from what they had in the *Blood* appears hence, that thoſe which *ſweat much* (as the *new-comers* in the *Indies*) their ſweat is *leſs noyſome* and *bilious* by far, than it is in thoſe that ſweat *more ſeldome:* Thus *Soot* is a *different body* from

Sanctor. Med. Static. ſect. 1. aphor. 41, 49. ſect. 4. aphor. 7, 8.

from any thing that is burned. Hence it is that those particles being *reimbibed* into the *blood* are so offensive to the *nervous parts*, and introduce a *lassitude*, as if the body were surcharged with a *plenitude*. Besides these *two cases* in which *Phlebotomy* seems to be *directly* indicated by a *Plethora* or *surcharge of blood*: It is practised in other cases by way of *revulsion* when the *Blood* and *intermixed Humours* flow into any *determinate part*, or are *fixed* there as in *Apoplexies*; *Squinancies*, and *Pleurisies*: for as upon *dissection* it is manifest, that in such diseases there is a *greater efflux of Blood* than upon other occasions, so it is evident by *long experience*, that *Phlebotomy* doth *alter its course*, and *draw back the blood* so as that sometimes after that the first *blood* hath run more *pure* and *defæcated*, the subsequent hath been *purulent*, as if the *conjunct* cause of the *Pleurisie* or *Squinancy* had been *evacuated* thereby. In reference to such *fluxes of the blood to determinate parts*, we usually consider what in *all probability* may happen, as well as what is at present *urging*: and therefore for *prevention thereof* we *let blood* upon great *contusions* and *wounds*. It is also practised by way of *derivation*, when we *let blood* near to the *affected part*, thereby to evacuate part of the *imparted* matter: Thus *Van der Heyden* did frequently let his Patients blood in the same *foot* for the *Gout*: Thus in a *Squinancy* to open the *Jugulars*, it is a *derivative Phlebotomy*. In all these cases all *Physicians* agree to the *received* practise: but in case that the *disease* be not meerly *sanguine*, but seem to arise rather from a *Cachochymy*, or *redundance of evil humours*, than any *plenitude*, or *exorbitant motion* of the *Blood*: here many *Physicians* cry up that Rule: That Plethorick Diseases require Phlebotomy, but those that arise from a Cachochymy require expurgation. Here they accumulate a multitude of *Arguments*; and undoubtedly, since *so great men* are of *that side*, it must needs

Sanctor. Med. Static. sect. 4. aphor. 10, 11.

Van der Heyden Synopsis discurs. disc. 2. de potu *frigido*.

needs be that *they have cured thoſe diſeaſes without Phlebotomy*. But the *contrary practiſe* hath ſo *many abettors* whoſe credit equalleth or exceeds that of the *others*; and *Experience* in a multitude of caſes hath ſhewed the great efficacy of *Blood-letting* in a *Cachochymy* or *meer impurity* of the *Maſs of Blood*: and ſo *prodigious* is the efficacy thereof in *promoting tranſpiration*, and *opening* all *the emunctory paſſages of the body*, in *preventing of putrefaction, and expediting of the concoction, and in refrigerating the whole habit*, that *Hippocrates* and *Galen* did reſolve it in general, That whenſoever any great Diſeaſe did ſeiſe upon any Perſon, if he were of Strength and Age to bear it, he ought to be let blood. The *Arabians* diſſented from *this practiſe*, but *Maſſarias* (after *Jacchinus* and the *Florentine Academy*) did prudently *revive* it, and ſolidly defend the *Tenet*: and the *happy Cures* did ſo convince the World of the *truth* of their *Aſſertions*, that all *Italy* in a manner was preſently reduced under them, and *France* and *Spain*; ſo that though they did, and do ſtill in *Spain* and *Italy* retain *Avicen* to be read in their *Univerſities* as well as *Hippocrates*, yet herein they have abandoned the *Arabians*; and they which do adhear to that *old Maxime* of purging out the *evil humours*, when they abound, do alſo comply with the *Hippocratical* practiſe, and by new excuſes accommodate *it* to their *principles*: So that as to *moſt diſeaſes* 'tis agreed (though upon *different grounds*) what *may* or *muſt be done*. Few now are ſo *timorous* in bleeding as heretofore; and where that apprehenſion is ſtill continued, the *Phyſicians* rather comply with the *prejudicate conceits* of the people, then act out of *Reaſon*. He that can doubt the ſtrange effects of *bleeding*, notwithſtanding the *concurrent judgment* of *Phyſicians*, let him either read over *Proſper Alpinus* concerning the *Phyſick* practiſed in *Ægypt* amongſt the *Turks* (where *Phlebotomy* is the *principal* and

and frequently the *ſole remedy*) or adviſe with any *Farrier*, and he will be ſatisfied that in a *Cachochymy* nothing is more *beneficial*, though it be particularly ſaid of *Beaſts*, that the Life or Soul is in their Blood. For my part I am ſufficiently convinced of the *ſolidity of their judgment* who do much uſe *Phlebotomy*, and I have frequently obſerved that the *beſt Medicaments have been ineffectual* till after *Phlebotomy*, and then they have *operated* to the *recovery* of thoſe Patients who found *no benefit* by them *before*: ſo that to *begin the cure* of moſt diſeaſes therewith is the moſt ready and certain way of *curing them*: and to make that *previous* to *purging*, is the direct courſe to *purge with utility*. 'Twas moſt *Oracularly* ſpoke by *Valleſius*. "*Facile conceſſerim venæ-ſectionem eſſe optimum omnium auxiliorum quibus Medici utuntur. Eſt enim valentiſſimum, & maxime preſentaneum, & multiplex. Dico autem multiplex, quia & vacuans, & revellens, & refrigerans, & venas relaxans, & omnem tranſpiratum augens, quam ob cauſam (& eſt a Galeno valde celebratum) in nullo magno morbo non eſt opportunum, ſi vires ferunt, & puerilis ætas non obſtat.*

So *Blondelus* could not with all his Skill cure the Marqueſs of *Cauvre* till he did bleed him) in a chronical terrible *dyſentery*: which he confeſſeth, though he writes againſt Phlebotomy in *Epidemical* dyſenteries. *Valles.* meth. med. l. 4. c. 2.

When I conſidered the ſtrange efficacy *of bloodletting* in ſeveral diſeaſes, and that the diſcovery of the *Circulation of Blood* had rendered moſt of the *Reaſons* which were *formerly* uſed to be more *inſignificant*, or *falſe*: I was not a little *ſurpriſed*. I obſerved that the *effects* were *ſuch* as did *exactly* correſpond with their *Hypotheſis*, and that the *practiſe* was not *faulty* or *vain*, though the *principles* were: neither ought any man to *quarrel* with or *laugh* at ſuch *Arguments* as ('tis certain) will *guide* a man rightly to his *utmoſt ends*. 'Tis a kind of *impertinency* that ſwayes this *Age*; for 'tis not ſo much a *Phyſicians* buſineſs to *talk*; but to *heal*. It was moſt judiciouſly ſaid long ago, "*Ac nihil iſtas cogitationes ad Medicinam pertinere, eo quoque ſenſu diſci, quod, qui diverſa de his ſenſerint, ad eundem tamen*

C. Celſus Medicin. in præf.

'men ſanitatem hominis perduxerint. Itaque inge-
'nium & facundiam vincere: morbos autem non elo-
'quentia ſed remediis curari. Quæ ſiquis elinguis uſu
'diſcreta bene norit, hunc aliquanto majorem Medium
'futurum, quam ſi ſine uſu linguam ſuam excoluerit.
Neither did *Hippocrates* place any great *value* upon *Philoſophical curioſities*, and *Natural diſcourſes*, but eſteemed it very *well* in *Phyſicians* if they could demonſtrate by their *ſucceſs* the *ſolidity* of their judgment, Ἀιτι ἦν ἐπόθουν τὴν τέχνην ἐπιδείξες, ἀς ἐκ ἦν ἔργον ἦδεν, ἢ ἐκ ἦν λόγων ἐπιδεικνύμαν· ὁ τὸ λέγειν κατεμελετήκωτες, ἀλλὰ τὴν πίςιν τῶ πράξει ὀξ ὧν ἂν ἔδωκην ἱκανοτάτην ἡγεύμενοι, ἢ ὀξ ὧν ἀκέσωι.

Hippocrat. de Arte. ſ. 2.

I *reſolved* with my ſelf, that if the *Circulation of blood and other modern diſcoveries taught us but the ſame practiſe we already followed.it was* uſeleſs; *If it contradicted it, it muſt be* falſe: I obſerved that it was the *great work* of the *wiſer Novelliſts* to accommodate the *new Theories* to an *old* and *true way of practiſe*; and perceiving that the *effects of Phlebotomy* were ſuch as the *Ancients* inſiſted on, I perplexed my ſelf in conſidering what there might be *therein* to produce ſo *different effects*: I abſtracted from *all common Principles*, and called to mind the Opinion of the *Methodiſts*, who were a judicious ſort of *Phyſicians*, and the moſt prevalent at *Rome* in *Galen's* dayes. They held that *Diſeaſes did not ariſe from peccant humours, ſince many lived, and lived long with Cachochymical bodies: and in diſeaſes if in the beginning a multitude of humours (and ſuch as Phyſicians aſcribe the diſeaſe unto) be evacuated by vomit, ſweat, or ſtool, yet the diſtemper continues, and becomes worſe and more dangerous by reaſon of ſuch evacuatians: As little did they regard the firſt qualities of heat and cold, ſiccity humidity, concluding them to have no immediate effect in producing diſeaſes, but as they varied the ſymmetry of all or any parts of the body: the grounds they went upon were ſuch as were deduced from that Philoſophy which makes Rarity and*

Denſity

Density the principles of all bodies; and they placed Health in such a conformation of the body, and such a configuration of particles as did best suit with its nature: they held that the intertexture of the minute particles of our bodies were such as admitted of an easie alteration, the fabrick being so exquisitely interwoven, not only in the solid vessels, and parts, but a commensuration of prorosities every where, the alteration of which texture of the body into a great laxity, or streightness, and this change of the pores did they make the great causes of all Maladies, and the restoration of them to be the way to sanity, and this they called μετασύγκρισις & μεταπορόεισις, *or the variation of the texture and combination of Corpuscles, in the symmetry whereof they placed Health, and in the asymmetry or improportionate and incongruous state whereof they placed all Sickness. It was their Tenet, that amongst those Remedies which did most alter the texture of the body from streightness to laxiiy, the most powerful were* Phlebotomy, *and* Purging, *and that* their principal effects *were not meerly to evacuate such or such peccant Humours, but* in doing so *to create a* new Texture *and* configuration of Corpuscles *in the whole Body, and therefore they held them to be General Medicaments, and of use in most great diseases, since such distempers were rather occasioned by a streightness than laxity of the pores, and even such as were laxe* one way *(as Dysenteries and Diarrhœas) might be accompanied with a streightness in the habit of the body.* This *Hypothesis* (for the further explication whereof I remit you unto *Prosper Alpinus*) having been of *great renown*, and most accommodated to the *course of life* by which the *Romans* (and since the *Turks* and others that follow not our *Physick*) did *preserve their Health, and recover their Maladies,* did merit my regards:

Διὰ τὶ πρὸς τὴν τροφὴν οἱ πυρεξαντες ἀνορέστως ἔχουσιν; ὅτι ἐν συμμετοίᾳ τινί ἐστι ὧν ἐν σωμάχῳ καὶ κοιλίᾳ πόρων; ἓν συμμετοίαν εὔλογον οὐχ ὑγιῆ μένειν, ἤτοι διαστάντων ἐπιπλεῖον τῶν πόρων, ἢ μύοντων.
Cassius in problem. 71.

They seldome used *purging*, imagining it not *fit* till the body was *prepor'd*, and humours *concocted*. but they made much use of *vomits*.

gards: and I observed the *truth* of that part of *their Opinion*, which avows that *purging* and *bleeding have further effects* than meerly the *evacuation of Blood and other Humours*: that *they* had such an influence upon the whole body as to restore and promote all the *natural evacuations* of the body by its *several emunctories* and *pores*; and that *Phlebotomy* did particularly incline to *sweat*, promote *urine*, (and sometimes instantly allay its *sharpness*) and make the body *soluble*, so that upon *Phlebotomy* there needs no *antecedent Glyster*: Neither is it convenient in a great *Cacochymy* to *purge* before *bleeding*; not so much for fear of *irritating the Humours*, but that the *purge* operating so as to *attenuate* and *alter* the whole *mass of blood*, and promote secondarily all *natural evacuations*; without *preceding Phlebotomy* it is scarce *safe* (not secure) to *purge*, except in bodies the *laxity* of whose *texture* is easily restored, or with gentle *Medicaments*: for the *Humours* being powerfully wrought upon by the *strong purges*, and inclined to be expurged by their *several emunctories*, and those being either *defective*, or the *veins* and *arteries* too *full* to admit a greater *rarefaction* in the *mass of blood* (which is requisite to their *separation* and *transpiration*) hereupon there happens a dangerour *Orgasmus* or *turgency of humours* in the *sick*: which *Phlebotomy* doth prevent. And 'tis I conceive in reference to *this alteration of texture* that *Hippocrates* saith, Τὰ σώματα χρὴ, ὅκοῦ ἄν τις βούλεται καθαίρειν, εὔρεα ποιέειν. I observed a *great congruity* betwixt the *Static observations* and those of the *Methodists*; and that *Sanctorius* hath a multitude of *Aphorismes* which agree with them: *viz.* That *such bodies as transpire well in the hottest weather, they are lighter, and not troubled with any vexatious heat. That nothing prevents*

Valles. method. medend. l. 4. c. 2. *Gregor. Horstius* Instit. Med. disp. 18. Coron. devenæ sect. qu. xi.

Any man that is conversant in *Physick* knows that such *purges* as operate on the *blood*, promote *urine*, and *sweat*, and *transpiration*, even during the *working*; for those very *qualmes* the Patients feel are an effect of *Diaphoresis*. *Lipothymia juvet: quia sudorem & validam perspirationem facit. Sanctor.* Med. Stat. sect. 1. *Aph.* 98.

Hippocrat. § 2. aphor. x.

Sanctor. sect. 1. aphor. 104. Id ibid. sect. 2. aphor. 28. § 1. aph. 120.

vents putrefaction like to a large transpiration, In fine, I did obſerve that it was the *general ſenſe* of *Phyſicians*, that *Phlebotomy* did draw the *Humours* from the *Centre* to the *Circumference*, and I had taken notice of it alwayes in my ſelf; even in the *Colick bilious*, when I was tired out with *pains*, *vomiting* and *want of ſleep* (when I took no *Laudanum*) and reduced to *extream debility* and *emaciation*, I determined in that forlorn caſe (having uſed all other means for ſeveral weeks) to *bleed* ſo long (yet *partitely*) as that I might be freed from a moſt *troubleſome pulſation* of the *deſcending Artery*, below the reins: I bled *eight ounces* at firſt, and found a *vextious heat* in the *whole habit* of my body: I repeated the *Phlebotomy* in the *afternoon*, and was very hot all night: thus I continued to bleed twice each day for three dayes, looſing above ſixty ounces, and then fell into *ſweats*, was eaſed totally in my *back*, and afterwards recovered with a more facile *Pareſis* in my *Armes* (and no *contracture*) then that diſeaſe commonly terminates in *there*. Theſe conſiderations made me think that there was ſome more *important effect* in *Phlebotomy* than the *evacuation*, *derivation* and *revulſion* of the *Blood* and other *Humours*; and that it muſt conſiſt in promoting that Statical *tranſpiration*: and I conceived that the *Blood* was in *perpetual motion*, and though *Motion* doth hinder *Fermentation*, yet I had obſerved that in Pipes at *Owburne Abby*, where the drink runs from the *Brew-houſe* to the *Cellar* (to be *tunned* up) the *Fermentation* continues ſo (eſpecially in the *ſtronger drink*) that the *Pipes* frequently break therewith, as rapid as the *motion* is: I did not imagine that the nature of the *Blood* was ſuch as to be exalted into one *Uniform liquor* reſembling *Wine*, (for ſuch a *liquor* would not be *liable to ſuch ſudden changes* and alterations *from one extream to another*) but that it was a *miſcellary of heterogeneous liquors* in a perpetual *digeſtive*

I did *herein* follow *Galen*, and thoſe that repreſent *Phlebotomy* as a great Anodyne: and particularly *Citeſius* concerning the *Colick* in *Poictiers*.

ſtive fermentation and *depuration* by *halituous particles* ariſing from it (as in more *groſs* by the emunctories) which if the *conformation of the pores* and paſſages be ſuch as to give it *due vent*, all continues well: if they be *obſtructed* or *vitiated* then *ſeveral maladies* enſue, except timely *prevention* be uſed: I conceived that in *Phlebotomy* as the *Blood* iſſueth from the *vein*, ſo (as in the pouring out of other *liquors*) the *Air* comes in by the *orifice*, and mingling with the *Blood* produceth *as great*, or *greater effects* than in the *Lungs* when it mixeth there with the *Blood*, invigorating it in an *unexpreſſible way*, whence we *commonly* ſee that the *pulſe* grows *ſtronger* and *ſtronger* during the *bleeding*: and upon *this account* I think it may happen that bleeding with *Leeches* though *equal quantity* be taken away, oftentimes does harm, never *alleviates* ſo much as *Phlebotomy*: and ſuch perſons as by reaſon of their *tender habit of body* cannot bear a *violent tranſpiration*, ſwoon not by *bleeding in water*, (though otherwiſe they do) by reaſon that the *great effects* of the *Air* upon the *Blood* are impeded by the *ambient water*: the like happens in *Scarification* with *Cupping-glaſſes*; and in bleeding with *Leeches*. I did ſuppoſe that oftentimes in a *Plethora quoad vires*, tranſpiration being hindered by the change of the texture of the Body, the *not-exhaling* particles remix with the *Blood*, and there alſo happens a *ſubſidence of the veſſels*, and change of the *poroſities*, ſo that the *Fermentation* is is not only clogged with *morboſe particles* of ſeveral ſorts, but ſo hindered by the *ſubſidence* or compreſſion of the veſſels and *alteration of the pores*, as not to be able to *ferment* (for freedom of room is neceſſary to *Fermentation*) nor *tranſpire*, nor continue its *due courſe*, nor by reaſon of the charge of *poroſities* confer aliment *aright*, ſo that a *Plethora* ariſeth hereupon. But as ſoon as the *vein* is breathed, and the *Blood* (as in your common *water-pipes* when a *Pipe* is cut) acquires a more free

Kergerus de ferment ſect. 1 c. 9. & ſect. 2. c 8.
Williſ. de ferment. c. 6,

free passage *that way*, it presently becomes more *rapid*, and its *motion also is accelerated* by the *fuliginous* exhalations hastening to the *vent*, together with the *natural Fermentation* resuscitated, and so the *whole body* by a *natural coherence* and *dependance*, is not only *evacuated*, but *altered* in its *minute texture*, and *conformation*.

It is most evident that the *Blood* in the *Veins* and *Arteries* is conveyed as it were in *conduit-pipes*, the *Heart* being the great *Elastic Engine* which drives it, being fed by the *vena Cava*, and disburthening it self by the *Aorta*: though even the motion of the Heart depend upon a *Superiour influence* by its *Nerves*, which wherein it consists and how derived from the *Brain* and *Soul*, is a thing to us incomprehensible. I do suppose that the *Circulation* is continued and carried on principally by *Anastomoses* betwixt the *Capillary veins* and *Arteries*, many whereof having been discovered by *Spigelius*, *Veslingius* and others, the rest may *well* be supposed: and perhaps in the coats of the *Veins* and *Arteries* there may be a certain *texture requisite* whereby the *transpiration* is managed in order to the *safe continuance* of the *digestive fermentation* in the *Blood*, and the *nutrition* of the body. The impulse of the *Heart*, together with the *pulsation*, is sufficient to convey the *blood* to the lesser *capillary Arteries*, and there though the *pulse* be lost (which yet a little *inflammation* in the *extremities* of the body will make sensible, and in some *Ladies*, as also in *Children*, the least *preternatural heat*) yet it is impelled by the subsequent *blood* still into the *veins*, and having acquired by the common *miscele* in the *Heart* and the *digestive fermentation* (which naturally ariseth in such *heterogenious liquors*) an inclination to *expand* it self, the *compression* in the *Capillary vessels* adds to its *celerity of motion* when the *larger veins* give liberty for it: the *Aiery corpuscles* of several kinds (which are easie to be

This is agreeable to the *Hypothesis* of the *Methodists*,

be diſcovered upon *burning*) by their *expanſion*, and *contraction* adding much thereunto: Thus in *Water-engines* the narrowneſs of the *Piper* do add to the *impetus* with which the *Water* iſſues forth: And I do conceive (by the *Phænomena* which daily appears in *practiſe*) that the *Animal heat in the Blood* actuating that *heterogeneous miſcele*, and according to the *diverſity of its parts* producing therein (with the help of its *fermentation*) a rarefaction of what is *aiery*, and, according to the *room* there is, a *liberty* or inclination to *expand* and *evaporate* themſelves, this is the principal cauſe of the *continuance of the motion of the blood in the veins*, and of its *ſaliency* upon *Phlebotomy*. Thus upon *Scarification* there is no *ſalience* or *ſpurting out of the blood*, there being no room for ſuch an *expanſion*, or for the *Aiery halituous* parts (in which there is as great a *difference* as in thoſe exhaling from the *terraqueous Globe*) to ruſh forward out of the *continued Arteries* and together with themſelves to protrude the *blood*: Upon *this account* the *Methodiſts* and old *Phyſicians* (as alſo the *Ægyptians*) where the *tender bodies* and *conſtitutions* of *Children* and *Women* or *Men* admit not of, or requireth that great relaxation of the *pores* and *texture* of the body, which a more robuſt and *firm habit* (wherein as the *natural reſiſtance* in health is greater, ſo the *receſs from it* in a bad eſtate is much greater) would be *cured by*, they uſe theſe *Scarifications*, and prefer them (moſt judiciouſly) to *Phlebotomy*.

This conſtitution of the *Body* doth evince the great *utility* of *Phlebotomy*, and beſt (as I ſuppoſe) explicates the *effects* thereof which we daily *experiment*. From hence not only is manifeſt how the *Body* is evacuated in a *Plethora*, but in caſe of **Revulſion**, and **Derivation**. It is manifeſt in *Aqueducts* and *Siphons*, that the *liquors* (though much differing in nature from the *Blood*, nor ſo inclined to *evaporate*) does

accelerate

accelerate their motion, and issue out so *rapidly* upon an *incision* or fracture in one of the Pipes, that a *lesser* in such a case will *deplete* the *greater*, notwithstanding its *free* passage in its *own* entire *Canale*. Thus the most *learned* and *considerate* Physician, Sir *George Ent*, having observed first thus much. " *Videmus aquam per si-* Apolog. pro circul. sangu. sect. 23. p 62.
" *phones delatam, si vel minima rimula hiscat, foras cum* " *impetu prorumpere.* And, " *Sanguis per aortam in-* Id. ibid. p. 107, 108.
" *gressus, fluit porro quocunque permittitur, peræque* " *sursum ac deorsum, quia motus continuus est: quemad-* " *modum in canalibus aquam deferentibus contingit, in* " *quibus, quocunque feruntur, aqua continuo pergit move-* " *ri. Quare nugantur strenue, qui protrusionem hujus-* " *modi non nisi in recta linea, fieri posse arbitrantur.* After this *He* explains the doctrine of **Revulsion** in this manner. " *Quæ postea de revulsionibus dicuntur,* Id. ibid. p. 179, 180.
" *nullum nobis facessunt negotium. Tantundem enim* " *sanguinis a pedibus ascendit per venas, quantum ad eos-* " *dam delabitur per Arterias. Facto itaque vulnere in* " *pectore, aut capite, revulsio instituitur (si modo tam* " *longinqua instituenda sit) in crure. Quia sanguis* " *alias quoquoversum ruens, facto nunc in pede egressu,* " *copiosius per descendentem ramum, procul a vulnere, de-* " *labitur. Non enim arbitramur, sanguinem æque cele-* " *riter sua sponte per arteriam aut venam fluere, atque is* " *secta earum aliquo effluit. Nec sanguis ad læsum pe-* " *dus aut caput, per venam cavam impetu affluit, quia* " *fluxus ille aperta inferius vena intercipitur.* I do acknowledge that the reading of **these passages** did first create in me the thoughts I now impart unto you: And *hereby* it is evident how the *Ancients* (with their large *Phlebotomies*) might *derive* even the *morbifick* matter, or *revell* it, though *impacted*. Our minute *Phlebotomies* do *seldom* produce such an *effect*; for since it is not otherwise done, but by a *successive depletion* out of the *Arteries*, it would seem necessary to extract *three* or *four pounds* of *Blood* to *effect* such a matter:

Neither indeed is it *neceſſary*: albeit that I believe the moſt *ſpeedy cures* (but great *judgment* is requiſite in ſuch operations) were atchieved *thereby*: for though we do not retract the *Humour*, or *Blood* unto the place *where we Phlebotomiſe*, we do revell it from the place *whither it was flowing*: and the courſe of the *Blood* and *Humours* being diverted, the *Arteries* leading to the part affected or *depleted*, and the *Flux of Humors* (which was *by them*) is abated, their *tenſeneſs* there (which appears by their *pulſation* there where they did not *beat* before) is *relaxed*, and ſo becomes leſs opportune to extravaſate either the *Blood* or other *Humours*: whereupon *Nature* it ſelf *alone*, or with a *little help* of the Phyſician, doth *digeſt* and *diſſipate* the impacted matter. Whereupon if we add the *motion of reſtitution* in the parts affected, which is hereby facilitated, the great change in the *digeſtive fermentation of the Blood* (which is manifeſt by the *melioration* of the Blood which is ſeen in repeated *Phlebotomies*) and the *relaxation* of the *whole body* in order to the *tranſpiration* and other *depuration of the Blood* by its ſeveral *Glandules*, the *Kidneys*, *Liver*, *Guts*, the reaſon of thoſe *prodigious benefits* which Patients have had *of old*, and now under *our practiſe*, is manifeſt; nor do we want a *juſtification* for reiterating *Phlebotomy*, or exerciſing it in *different veins*, and *divers manners*.

I deſigned long ago to ſet aſide ſome *ſpare hours* to a further ſtudy of this *Hypotheſis*, and in order *thereunto* to acquaint my ſelf with the *Hydraulic Arts*; as alſo to examine the *truth* and *ſolidity* of the *Static Experiments*: (out of which this *texture* of the *Body*, the *digeſtive motion* of the Blood, its *change*, and *reſtitution*, is demonſtrable) and to enlarge *my proſpect* by a compariſon of the ſeveral *Methods* and *Medicaments* uſed

The alteration of the *texture of the body* is no leſs evident, out of *Dietetical* obſervations: of which I have made *many*, and did intend *once* to proſecute *for* theſe *inquiries*; as alſo the diſcovery *thereof* in *dead bodies*.

used by sundry *Physicians* (both *Methodists* and others) in order to the *cure of diseases*, and *preservation of health*: But I must tell you that the *malice of my enemies* renders my LIFE and *Condition* so ill-assured; And the apprehensions I have least the Projects of Campanella are *powerfully* and *subtly* driven on in this *Age* (I am the more confirm'd in my *suspicions*; in that my *Adversaries* are most intent to *ruine me*, but not to *remove those Umbrages*) together with the *imminent subversion* of the Faculty of Physick by the toleration of Divines *to practise* (which is contrary to the *Ecclesiastical Canons*, and makes them irregular) the great incouragement of *Quacksalvers*, and Baconical Physicians: These reflexions have so *discouraged me*, that I have no mind to *pursue those studies*, or to be *much concerned* for the *present* on *succeeding generation*: But could I see *Physick* regain its *lustre*, the *Faculty* encouraged by such *Acts of Parliament*, as our *Predecessors*, and *Forreign Potentates* have made, and your Colledge advanced as the Proper and Supreme judicature *in reference to Medicine*, I would willingly imploy *all my leiseure* in the improving of the *present state of Medicine*, without subverting *Learning*, or disparaging the *Ancients*, without the knowledge of *whose writings* 'tis impossible for any man to be excellent in Physick. Poets and *Comical Wits* owe more to their Birth, and need less of *industry*, *study* and *judgment*, than Physicians: The *knotty Staffe*, the *Serpent*, the *Pine-apple*, the *Dog*, the *Dragon*, the *Cock*, with which the *pourtraicture* of *Æsculapius* was beautified, were not *Symbols* and *Hieroglyphics* of a facile study: The *first Principle* that we are taught is, Ὀβίος βραχὺς, ἡ δὲ τέχνη μακρὴ, ἡ δὲ καιρὸς ὀξὺς, ἡ δὲ πεῖρα σφαλερὴ, ἡ δὲ κρίσις χαλεπή. But now the reading of two or three *Books*, a *Comical Wit*, a Bacon-face, a *con-*

I intend some time this Summer to write a discourse concerning the *Unlawfulness of Divines to practise Physick.*

Vide *Meibomium* in sur. *Hippocrat.* c. 5. *Io: Laurent.* dissert. de *Æsculapio.*

Χρὴ μὲν γὰρ, ὅστις μέλλει ἰητρικῆς ξύνεσιν ἀτρεκεὼς ἁρμοζεσθαι, τῶδέ μιν ἐπίβολον γενέσθαι φύσιος διδασκαλίης, τόπου εὐρυεός, παιδομαθίης, φιλοπονίης, χρόνου. *Hippocr.* lege. c. 2.

tempt of Antiquity, and a *pretence to novel Experiments* (which are *meer* excuſes for *Ignorance*, and *Indiſcretion*) are ſufficient *Qualifications*,

Notwithſtanding the *Melancholy* and *penſiveneſs* into which the *preſent poſture of Learning here in* England alwayes puts *me* into, when I reflect thereon: I will conſtrain my ſelf to proceed further, and examine the caſes of *Phlebotomy* in a Pleuriſie, the Small-pox, and Scurvey: concerning all which *diſeaſes* as I ſhall debate what an Intelligent Practitioner may do, nay is oftentimes obliged to do in conſcience, and out of diſcharge of Duty to his Patient; ſo I will not juſtifie *any Action* of thoſe perſons who *underſtand nothing*, nor can *diſtinguiſh circumſtances* in particular caſes: A thouſand things are to be conſidered by him that would *practiſe Phyſick* exactly, the *preſent diſeaſe*, the *paſt condition of the Patient* in reference to *himſelf*, *his parents*, *his diet*, *preceding diſtempers*, the *latter*, the more *remote*, the *conjunct* cauſes; what *hinders*, what *promotes*, what *effects* the cure: What *will*, what *may happen* in the diſeaſe, what *will* or *may* enſue upon *recovery*: In all theſe caſes, ſince he hath not a *ſenſible* and *eaſie knowledge* thereof, but muſt proceed upon Conjecture, *you* underſtand well *How great a comprehenſion of affairs*, and *how much in each caſe*, *he muſt inquire into*, who will diſcharge *well* the duty of a *Phyſician*. It was prudently ſaid of the incomparable *Ariſtotle* (the *meaneſt* of whoſe Works deſerves to be *read* above all that the *Novel Experimentators* have publiſhed; if it were but for the *wiſe Apothegmes* therein: for Civil Society is the grand work of this Life; and that is more *uſeful*, which qualifieth us *thereunto*, then what makes us admirable Mouſe-trap-makers!) "*Phyſicians*, ſaith he, *do not cure* "*man in general*, *except it be by accident*, *but* Cullias, *or* "Socrates, *or ſome other individual perſon*. *Hence even*

Ariſtot. Metap. lib. 1. c. 1.

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'*a man that is a speculative Artist* (how much more 'those that are neither *speculative*, nor *Empirics?*) '*may be deceived in the application of general rules to* '*singular cases, and so may mistake:* He tells us that '*it is not for the most dexterous railers, or witty Sophi-* '*sters, to judge of State matters, nor yet for any man* '*to direct therein, who hath not served an Apprentice-* '*ship in the* Ministry of State: *for neither in Phy-* '*sick, doth the knowledge of a common* Praxis *accom-* '*plish a man thereunto:* ταῦτα δὲ τοῖς μὲν ἐμπείροις ὠφέλιμα εἶναι δοκαῖ τοῖς δ' ἀνεπιςήμοσιν, ἀχρεῖα. What is it to the purpose, if they learn a multitude of *Knick-knacks*, and have an infinite of *Conundrums* in their Heads, if they know not what appertains to Practise? These narrow-sighted *Verulamians* may recommend *themselves* by success *in a few*; the Grave may *conceal*, or a strong Nature amend their defaults; but they are nevertheless ignorant. In a *calm* many can steer a *ship*, whose *imbecillity of judgment* sinks it in a *storm*.

Ethicor. l. x. c. 9.

ἐγὼ δὲ τυ-τεών μὲν ὅσαι τινὶ εἴρεται σοφιςῆ, ἢ ἰητρῷ, ἢ γέγραπτοι περὶ φύσιος, ἧσσον νομίζω τῇ ἰητρικῇ τέχνῃ προσήκειν, ἢ τῇ γραφικῇ.

Ἐπεὶ οἱ πολλοί γε τῶν ἰητρῶν ταυτά μοι δοκέουσι τοῖς κακοῖσι κυβερνήταις πάχειν καὶ γὰρ ἐκεῖνοι ὅταν ἐν γαλήνῃ κυβερνῶντες ἁμαρτανωσιν, οὐ καταφανέες εἰσιν ὅταν δὲ αὐτοὺς κατάχῃ ἄνεμός τε μέγας καὶ χειμὼν, φανερῶς ἤδη πᾶσιν ανθρώποισι δι' ἀγνωσίην καὶ ἁμαρτίην δῆλοί εἰσιν ἀπωλέσαντες τὴν ναῦν οὕτω δὴ καὶ οἱ κακοί τε καὶ πλεῖςοι ἰητροὶ, ὅταν μὲν θεραπεύσωσιν ἀνθρωπους μηδὲν δεινὸν ἔχοντας, ἐς οὓς ἄν τις καὶ τὰ μέγιςα ἁμαρτάνων οὐδὲν δεινὸν ἐργάσαιτο πολλὰ δὲ τὰ τοι αὐτα νοσήματα καὶ πολὺ πλέον τῶν δεινῶν ἀνθρώποισι συμβαίνει Ἐν μὲν δὴ τοῖσι τοιούτοισιν ἁμαρτάνοντες οὐ καταφανέες εἰσι τοῖσιν ἰδιώτησιν ὁκόταν δὲ τύχωσι μεχάλῳ τε καὶ ιχυρῷ καὶ ἐπισφαλεῖ νοσήματι, τότε σφεων τὰ ἁμαρτήματα καὶ ἡ τέχνη πᾶσι καταφανής ἐςι.

Hippocr. de veter medicin. c. 17.

I have already spoken concerning *Phlebotomy* in the Plague: In a Pleurisie 'tis no less evident that *Physicians* are divided in their *judgments*. To begin with

with the *true ſtate* of the *Queſtion*: This is more than this *Baconical* Philoſopher did ever think upon; for he without *any diſtinction* derives the uſefulneſs of Phlebotomy in a Pleuriſie. ‘‘ *If thou beeſt unſa-*
‘ *tisfied whether* opening a vein *as it is indicated from*
‘ *Evacuation, or Revulſion,* be a competent ſufficient
‘ Remedy *for the cure of a* Pleuriſie, *or any high Feaver;*
‘ *thou ſhalt find in this ſhort Tract a Reſolution in* a Ne-
‘ gative ſenſe, *grounded on* Reaſon, Authority, *but eſpe-*
‘ *cially that which is the ſum of all*, Matter of Fact *de-*
‘ *livered according to what Experiments are paſt, offered*
‘ *to be made good for the future.*——Thus he beſpeaks his *Reader* in the *Preface*: and a little after he aſſures him, that ‘‘ *He is able to reſolve any one that is capa-*
‘ *ble, that the moſt* Plethorick body *taken with a Feaver,*
‘ *or any one* Cachochymic *afflicted with a* Pleuriſie *may*
‘ *be cured without the Lancet more* ſpeedily *and ſafely*
‘ *than by uſing the ſame.*——Though I cannot imagine——*G. T.* to be good at reſolving Controverſies in Phyſick, yet ſuch is his *impudence*, that I will not refuſe him the Title of Doctor Reſolutus; I have read over *his Book* with ſome attention, but I could not find any *Pretenſions* in it to Authority, nor any *Experimental Hiſtories* related: All amounts to this——G. Thomſon ſaith, ‘‘ *It is not good to bleed*
p. 126. ‘ *in a Pleuriſie.* And——G. Thomſon avows that
‘‘ *'Tis verified by obſervation, they who recover by this*
‘ Apoſpaſtick means *do for the moſt part find a great*
‘ *debility ſucceeding, are incident to Empyemas, Con-*
‘ *ſumptions, and prove to relapſe into the like condition*
‘ *again. On the other ſide, thoſe who riſe from their*
‘ *ſick Beds, reſtored by vertue of* adæquate Remedies,
‘ *are* ſecured *from the forementioned diſcommodities.*
‘ *Aſſuredly of all thoſe* Pleuriticks, *I have handled above*
‘ *theſe* half-ſcore years, *I have not known one after their*
‘ *evaſion procured by* a legitimate form of Phyſick, *ei-*
‘ *ther live craſie, fall into ſecondary calamities, or reci-*
‘ *divate*

divate into a Languour of the like Idæa.——This is that *irrefragable Argument* drawn from past Experiments, which is the Sum of all Proofs, and muſt ſatisfie all that are capable: which it is poſſible *it may do*, if there be perſons in the World that are capable of being reſolved hereby: But impoſſible Suppoſitions are equipollent to Negations: Aſſuredly either this *Age* affords *no ſuch Men*, or they are a Company of Fools: Who elſe will give credit to the *bare aſſertions* of——*G. T?* He ſhould have done like his Brother *Odowde*, printed an account of *Cures*, though they had been all *falſe* and fictitious: but as the caſe is, *he* neither cites ſo much as *Van Helmont*, and the Peaſant that cured *Pleuriſies* with *ſtoned-horſe-dung*; but is himſelf Author and Witneſs: Thus he *briſtles* moſt Porcupine like.

Se *jaculo*, ſeſe *pharetra*, ſeſe *utitur arcu.*

This is all I reply to his Authority, and Experiments: His *pretences* to *Reaſon* are no leſs gain. He ſayes, That *when we bleed any Pleuritick, there is no* ſtreight immediate Revulſion *intended from the* part affected *to* the orifice——which is a moſt TRUE, and Bacon-like Aphoriſme! for we never thought that the *Revulſion* could be *ſtreight*, whereas the *line* in which 'tis made is crooked. If we *Phlebotomiſe* in the *Arm*, (whether it be on the *ſame ſide*, or on the *contrary*) or in the *foot*, none was ever ſo beſotted as to avow the *Revulſion* to be ſtreight, though he held not the *Circulation of the Blood:* But ſuch as hold that the *Revulſion* is made thus, in that the *Veins draw from the Arteries*, and ſo as in *Siphons*, divert the ſtream, they cannot hold *any thing like it:* nor that the *Blood* impacted or flowing was immediately revelled, and *drawn back:* But I am apt to think that ſome *upon large* and *repeated Phlebotomies* may p. 126.

have

have drawn ſome of the *purulent* and *degenerate* blood out of the veins of the *Arm*; in which there is no more of *impoſſibility*, than that it ſhould be carried by the *emulgent Arteries* into the *Kidneys*, and diſcharged by *urine:* which laſt is avowed to have been done. I do not know that ſuch *large Phlebotomies* in a *Pleuriſie* are practiſed by the *Engliſh Phyſicians*; though I think there is not ſo much of *Reaſon*, as *vulgar prejudice* to oppoſe the *thing*, when the *Doctor* is an *underſtanding Man*. For why may not we in *England* bear that which they do in *Holland*? there *Heurnius* took away above *four pounds of blood* from one *Plethorical* Pleuritic at one time, in a *dangerous Pleuriſie*, and recovered him when all others gave him up *for dead*. I believe there may be *ſome* amongſt us that repeat *Phlebotomy* too often; but I am confident the *generality* erre in taking away too little at *one time*, in the beginning of *Pleuriſies* and *Feavers*.

See *Schenckius* obſ. l. 2. de pleurit. *Proſper Alpin.* Medic. meth. l. 7. c. xi.

I. Heurnius apud Schenckius lib. 2. de pleurit.

His next Argument is, that the Cure by *Phlebotomy* is accidental *only and uncertain: ſometimes in the beginning they do thereby ſuppreſs the diſeaſe, and as it were cruſh it, but it is a contingent, not at all Rhizotomous Cure, which ought to be performed by thoſe things which are* Ῥοιζωα, *dulcifying the acid Latex, carrying it off through all its emunctories, rectifying the ſtomach, and mortifying the malignity.*——That all *Pleuritics* ſhall be cured by *Phlebotomy*, is a thing no wiſe man will undertake for: As little will any man *promiſe* to cure a *Pleuriſie* by ſole *Phlebotomy*, without giving the Patient any *Expectorating*, or *Sudorifick Medicaments*, or other *Potions*; beſides the Powders of *Pikes-jaws*, *Boares-teeth*, *Crabs-eyes*, &c. which correct the *acidity* of the *Latex*; if there be any ſuch thing.

p. 126. I would willingly know of this *Helmontian*, whether it be a *Rhizotomous cure*, when Nature doth put a period to a diſeaſe, by an *eruption of blood at the noſe*? Here is no *dulcification of the acid Latex*; no *rectification of the ſtomach*; and no other *mortification of the malignity*.

But

But to shew the *folly* and *impertinence* of this —— G. T. There are several sorts of *Pleurisies*, in many whereof no *Galenical* Practitioner is obliged to *Phlebotomy* at all; though in some such cases it be left to *their discretion* either to use it, or omit it; as in *Bastard Pleurisies*. Of those which have the Character of true *Pleurisies*, some are occasioned by the Wormes; in which —— G. T. cannot imagine that any man would rely on *Phlebotomy*. There are also *Pestilential Pleurisies*, wherein the effects of *Phlebotomy* are as *uncertain* as in the *Pest* it self; *Gesner* (in his *Epistles* somewhere) speaks of *such* a one, in which all died that were *blooded*: So doth *Bartoletus*, and *Wierus*. There was also an *Epidemical* Disease in *Friuli*, which *Vincentius Baronius* first named a *Pleuripneumony*, in which the *Pleura* and *Lungs* were both affected (where the seat of a *Pleurisie* is, is doubtful amongst Physicians) but yet so, that though they had *all the signs* of a common *Pleurisie* at the beginning, yet did they never come to *suppuration*, but were cured by *Phlebotomy*, immediately upon the administration *whereof* they were relieved, and with the help of accessional Medicaments expectorated *bilious* and *pituitous* spittle, and so recovered. As to those which are confessed to be Pleurisies, it is to be observed, that neither can all *persons*, nor all places bear *Phlebotomy* therein, and in such cases no wise *Physician* will administer it: the *qualities* of the *Climate*, and *individual constitutions* or *debilities*, are circumstances he will alwayes regard. It is granted that some *Pleurisies* are so mild, and attended with such favourable *symptomes*, of so good a *prognostick*, that they do not need *Phlebotomy*: '' *In* '*moderata pleuritide, in qua videlicet parum urgent re*'*spiratio, tussis, dolor, febris, Phlebotomia inutilis est,* '*aut certe non necessaria. Aliis enim levioribus auxi*'*liis curari potest, quomodo is a Galeno percuratus, qui* '*in*

Quercetan. Redivivus t. 3. p. 102. *Baptist. Cadronch.* de morb. vulgar. c. xii. and *Bartoletus* de diffic. respir. l. 5. c. 4. *Bartoletus* de difficil. respir. l. 5. c. 4. *Wierus* obser. l. 1. de Epid. pleuritide.

Vincent. Baronius de pleuripneumon. l. 1. c. 1.

Castellus de abusu Phlebotom. p. 87.

Gabelchoverus centur. 2. cur. 92. in Scholio *Hollerius* apud *Iacotium* in *Coac.* l. 7. sect. 2. sect. 18. vide etiam *Iacot* in *Coac.* l. 5. sect. 2. §. 26.

Galenus comment. 3 in l. 6. Epidem. But Riolanus doth blame Galen as violating his own Rules hereby. De circulat. sang. c. xx. Hippocrat. l. 2. Aphor. 19.

'in levi pleuritide sanguinem expuebat; & plurimi visi 'sunt a nobis & aliis medicis citra ejusmodi auxilium 'convaluisse. But although I am ready to grant that in such cases Phlebotomy may be omitted, and yet the Patient escape: yet I can hardly commend the prudence of such Physicians as do omit it: For, since a Pleurisie is always an acute Disease, (in such our Prognosticks are not certain) and the parts affected such as are of greatest importance, and equal tenderness; since the disease is frequently so fallacious, that amidst the most hopeful signes, and when we may justly expect its happy termination, even then most direful symptomes break out, and render the case deplorable. [Nam aliquando ubi antea signa omnia salutem prænuntiaverint, crisis tempore, quæ fere fit ad septimum, aut alium diem criticum, vehementer Pleuritis exacerbatur, symptomata omnia increscunt, tum nihil movendum est: sed omnia naturæ committenda sunt.] Since the Patients condition is such, I do not see how any Physician can answer it well to his Conscience, or the Rules of Art (I am sure 'tis criminal in Italy) if he forbear to take some Blood (albeit not so much as otherwise he would) away from him: the damage is inconsiderable, but the hazard otherwise so great, that no prudence can well contemn it.

Holler. de morb. intern. l. 1. c. 26. De pleuritide.

Zacchias Qu. Medico-legal. l. 9. consil. 40. sect. 4.

I do further confess that many have been recovered out of very dangerous Pleurisies without Phlebotomy: as he in Alexius Pedemontius with the pectoral drink, and perhaps that other by the eating of an Apple roasted with Olibanum in it: whereof Quercetan makes mention; who also speaks of another Powder given in the water of Corn-poppies, with which he cured many Pleuritics, administring nothing else inwardly, or outwardly. There is a Case in Valleriola (which yet he rather accounts miraculous, than to be presumed upon again) of a young Woman eight months gone with child,

Alexius Pedemont. de secr. l. 1. p. 51, 49. River. cent. 4. obs. 88. Quercetan. Redivivus t. 3. p. 103.

child, that fell into a *Pleuritie on the left side*, with a violent Feaver, a troublesome Cough, and difficulty of breathing. *'Uno die miraculo curata, non misso sanguine, non cucurbitulis adhibitis, ullave purgatione, duobus tamum illi præscriptis Clysteribus emolientibus, sputo eodem die cruento plurimo & cum facilitate emanante; sudore interim copioso sub noctem secuto, postride sana evasit, absque dolore, absque febre (quæ tamen vehementissima in ea erat) & absque ullis symptomatis relictis, a morbo integre curata remansit.*

Fr. Vallerio-la obs. Medic. l. 4, obs. 1.

Neither will I deny that grievous Pleurisies have been cured by Subdzitics: this *Method* was practised by *Lazarus Meyssonnierius*, and that for *this reason*: He sayes the common People about *Lyons* in *France* call a Pleurisie *Lou-sanprei*, or *congealed Blood*: and that *Platerus* (and others) upon *dissection* have found no other default in the *Pleura*, than that there hath been a *livid spot* thereon, which he looks upon as a *concretion* of *salino-serous Blood*; considering this, and that the *Critical termination of Pleurisies* is by Sweat, he perfected his Cures by discussing the coagulated *blood* by Sweat, and that sometimes so as not to use the other subsidiary Remedies of *Phlebotomy*, or *Lenitives*. *''Imo non adhibitis Medicorum ignorantia, vel adstantium negligentia convenientibus remediis aliis, in vera 'Pleuritide sudorem excitavimus diebus decretoriis 7. '& 14. quod nobis feliciter cessit, præsertim in adolescente prædivite, qui tempestiva phlebotomia omissa ad 'mortem properabat, ille siquidem septima morbi propinato a nobis vocatis* potu hedzotico *intra biduum sanus in publicum prodiit: vocatur ille* Serre, *& Burgundii apud Delphinates taurice vivit.*

Lazarus Messonnierius doctr. nov. febr. Exerc. 3. p. 41, 42. *Platerus* ἀπὸ σαλόντων ὑγρῶν, ἡ πλευρὴ πολλὴν ἐνείσκατει, ἰχαλοειδῆ πλανῆ. *Hippocrat.* de victu in acut. l. 1. sect. 8.

I must take notice here that our *Author* dislikes not, but complains of the omission of mature *Phlebotomy*; notwithstanding that he *compleated* his Cures by sweating: Neither is this

this way of *his* condemned by *Vallesius*; whose words are these. "*Hæc* [apud Hippocratem ibi] *ratio curandi pleuriticos, potionibus vehementer discutientibus, non admodum in usu est nostris Medicis, quippe qui post missionem sanguinis, & inunctiones & moventia sputa, & quæ ad has intentiones pertinent, nisi excreent ægroti, desperant servari posse, ad nullam aliam transeuntes curationem. Scio tamen quendam, cui homo quidam vulgaris nescio quid hujusmodi in potu dedit, copiosissimo sudore excitato, servatum esse brevi, & thoracem laxatum, & sputum redditum facile, cum septima jam dies esset, & nihil cæpisset excreare, & pene jam strangulari præ respirandi difficultate periclitaretur. Idiotæ etiam qui Emperice curationem quorundam aggrediuntur, exudatoriis curant pleuritides, sæpe cum optimo successu: atqui profecto ratione hoc non caret.* Of the like Cures, without *Phlebotomy*, or other Medicaments besides what *expectorate*, (and perhaps a *pectoral liniment*, or *fomentation*) you may see in the excellent *Rulandus* cent. 1. cur. 59, 75. cent. 6. cur. 76. And *Gabelchoverus* cent. 3. cur. 49.

Vallos. in *Hippocrat.* de victu in morb. acut. l. 4. p. 197

Neither is it to be denied, but that *Rulandus* frequently cured *Pleurisies* (even the most desperate) by vomits of *Aqua Benedicta*, or the *Emetic infusion*, and *pectoral drinks*, without ever proceeding to *Pectoral liniments*, or *Phlebotomy*, except there did appear further occasion *thereof* after the *vomit*. So *Cent.* 1. *cur.* 41, 81. *Cent.* 4. *cur.* 26. *Cent.* 6. *cur.* 13. *Cent.* 7. *cur.* 42. But when there seemed occasion for *Phlebotomy*, after the *aforesaid vomit*, then he useth it. *Cent.* 1. *cur.* 35, 36, 57, 62, 65, 68. *Cent.* 4. *cur.* 16. *Cent*-5. *cur.* 53, 56, 57. The like course was practised by *Hartman*, who begins with the same *vomit*; and if occasion require descends to *Phlebotomy*, and *Diaphoretics*, *Liniments*, and expectorating Medicaments. In *Plethorick bodies*, doth

Hartman. praxis chym. de pleurit. p. 133. edit. *Genevens.*

doth *Hartman* bleed before he *vomit* his Patients. Sometimes *Rulandus* doth *vomit* them with his *Aqua benedicta*, *bleed*, and *ſweat them for ſeveral dayes* till they be well; uſing other *pectoral Medicaments*: as *Cent. 6. cur.* 18. Sometimes he *ſweats* and *vomits* them at once with the powder of *Aſarabacea-roots*, and a *Decoction* or Water of *Carduus benedictus*, and doth not *Phlebotomiſe*: as *Cent.* 5. *cur.* 6. Concerning the uſe of his *Aqua benedicta*, or the *Emetick infuſion* in *Pleuriſies* he avows it to be Experimentum optimum contra hunc morbum, et omnium aliorum Medicamentorum certiſſimum. *Cent.* 1. *cur.* 66. I muſt profeſs I have *generally* guided *my practiſe* in the Countrey by the Preſidents of *Rulandus*, proceeding to *Phlebotomy* after *vomiting*, if the pain were not *mitigated* and *expectoration facile*; but *if it were*, I acquieſced in *topicks*, and *expectoration*, and *ſweating*. Where the *Patient* could, or would not *vomit*, I followed the *Preſidents* of the ſaid *Rulandus*, for to purge with the decoction of *Senna*, *Agaric* and ſome *pectoral additions*; and then to *expectorate*, and *ſweat* the *ſick*, not *bleeding* except occaſion required it, and then I either *premiſed*, or uſed it *ſubſequently*, as I ſaw cauſe: thus Rulandus *Cent.* 5. *cur.* 36, 64. for which procedure you may ſee his *Reaſons* added *Cent.* 7. *cur.* 20. And the practiſe of Gabelchoverus *Cent.* 1. *cur.* 11 *Cent.* 2. *cur.* 23. But *Gabelchoverus* in his *Scholium* here doth not allow of ſo *ſtrong purges* as *Rulandus* ſometimes makes uſe of, and defends by the *Authority* of *Hippocrates*, who did uſe *Peplium* and *Hellebore* in ſuch *Pleuriſies*, as the pain deſcended to the *Hypochondria*, and did not *aſcend* to the *Omoplate*: But *Rulandus* doth not regard *that* diſtinction, nor *Gabelchover*, nor many others. The caſe of the *Wife* of *Ludovicus Paniza* doth deſerve to be ſet down here.

Ludovicus

Ludovicus Panizæ, Mantuanus, in Apologia Commentarii *de parca evacuatione in gravium morbarum principiis a materia multa & mala & non furiosa pedetentim faciendâ.* cap. 6. fol. 59. col. 1.

b

" *Præterea quid sensui respondebimus? quod anno* " 1554. *mea conjuge pleuritide correpta, ea suum annum* " 72. *agente, imbecillis naturæ, melancholicæ temperatu-* " *ræ, sanguine & carne exuta, dolore ad spatulam as-* " *cendente. Eam secundo mobi die, non cum Phlebotomia,* " *sed cum Pharmaco purgavimus, quod summa cum tran-* " *quillitate subduxit, deinde subtili cum diæta, & ac-* " *quentibus, & sputum facilitantibus (ut par est in hu-* " *jusmodi morbis) usque ad septimam sic procedentes,* " *qua transacta, de Phlebotomia memores, sanguinis &* " *carnis privatione, ætate, & ægra reluctante, eam di-* " *misimus, atque ad id felicissimum purgatorium Medi-* " *camentum rursus devenimus, a quo post* XIV. *diem sal-* " *vata fuit,*

It is further to be taken notice of, that sometimes Pleurisies have been cured without *Phlebotomy, purging,* or *vomiting,* or *bleeding*; by *Liniments* and *expectorating Medicaments*: as in Gabelchoverus *Cent.* 1. *cur.* 3. *Cent.* 2. *cur.* 93, 98, 99.

But to oppose——*G. T.* directly: sometimes Pleurisies have been cured by *Phlebotomy* alone and *pectoral Medicaments*: as in Rulandus *Cent.* 7. *cur.* 13, 14. *Cent.* 10. *cur.* 49. Gabelchoverus *Cent.* 3. *cur.* 7. Sometimes by *Phlebotomy*, and *sweating*: as in Rulandus *Cent.* 6. *cur.* 60.

I

I have hitherto made use of *these Authors*, because they were most *eminent Practitioners*, and particularly famed for their *Cures* in *that disease*: and it is manifest *hereby*, that *Physicians* are not *bound up to one method* therein. Neither indeed *can* they be in *any disease*: for in *some years*, and in *some ages*, and *persons*, and in *some circumstances*, they are *forced* to recede from their *usual courses*; and sometimes the *mildness of a distemper is such*, that it requires not *all their address*, those *Methods* which are set down in our *praxes*.

I now come to give an account of the most *common* and *received Method* of curing *Pleurisies* amongst *Physicians*; and to shew with *how much reason* they practise *Phlebotomy* therein. There is not *any disease* whereof *Hippocrates* did take so particular care in relating its *Diagnostics*, *Prognostics*, and *Cure*, as a Pleurisie, as is evident by what *he* hath written in his Books *De victu in morbis acutis*; and *De morbis*, besides what he hath set down occasionally in his other Works: It is an *Acute Feaver*, finishing its course in *seven*, *nine*, *eleven*, or *fourteen dayes*; though it hath happened (as in the case of *Anaxion*) that it extends its period to *thirty four dayes*. It is attended alwayes with *troublesome*, oftentimes with *dangerous* symptomes. A violent Cough, difficulty of breathing, pricking pains and Stitches in the sides: these are the *Pathognomonical* signs of *this Feaver*. Though the part affected seem *principally* to be the *Pleura* or *costall membrane*, yet are the *Lungs* attacqued by this *disease* (and frequently it hath been found that the seat of the *Pleurisie* is rather in *them* than in the *Pleura*; as the followers of *Petronius* do demonstrate) and their *fabrick* is so *tender*, that it is in great danger to be *putrified* or *corroded* in this distemper, by the *sharpness* or other *evil qualities* of the *sputuminous matter*.

Hippocrat. aphor. 8. § 4. cum notis *Vollesii*.

Hippocrat. Epidem. § 3. l. 3. p. 309. 310, 311, 312. cum notis *Vollesii*.

matter. Besides, it is a very *fallacious* disease, and frequently after hopes of a recovery by a *benign Anacatharsis*, after that the *stitches* have abated, oftentimes the disease becomes *crude* and *exasperated* again, to the *detriment* or *death* of the Patient: as appears by the case of *Anaxion* in *Hippocrates*, and that other related by *Franciscus Rubeus*: as also by *Mercatus*. If it be not happily cured, the danger is no less than that it should change into a *Phrenitis*, or *Peripneumony*, or terminate in an *Apostemation of the Lungs*, or an *Empyema* in the *Thorax*. Where the disease is so full of *dangerous* as well as *vexatious symptomes*, it is not to be wondered that *Physicians* have diligently looked into the disease, and recommended unto our *practise* a great many things, which they who either *perfunctorily* look upon matters, or *superciliously* despise dangers, or out of *ignorance* cannot apprehend them, may contemn. That the *Blood* in *that disease* should acquire a *congealing* or *coagulating* quality seems *unimaginable*: both because that oftentimes the *procatarctic* cause is *sudden* in its operation: as when a *plethoric* person any way doth *over-heat* himself, or *drink cold drink*, &c. and also that the *congelation* in the *Pleura* (when it is *there*) is no other than what is seen in the *spots* of the *spotted Feaver*, or *Plague*; which seem not to be congelations of the Blood: Besides, How comes it to pass that this *aptitude to congeal*, if it be in the *whole mass of blood*, doth not discover it self any where else but in the *Pleura*? And if such a *Diathesis ad acescendum* in the blood produce a Pleurisie, How is it true that *Hippocrates* saith, *Acidum qui eructant, non sunt pleuritidi obnoxii*? Why also are *splenetic* persons (in whom we may best suppose such a *Diathesis*) not inclined to *Pleurisies*; except the *spurious* and *flatulent* ones? Is it not moreover known, that *Vinegar dissolves congealed Blood*, and is therefore given in *bruises*: As also

Hippocr. Coac. Prænot. l. 5. sect. 2. sect 27. cum notis Iacotii.
Ballonius Epidem. l. 1. p. 20.
Franc. Rubeus nocturn. exercitat. xii.
Lud. Mercatus consult. xi.
Hippocr. Coac. Prænot. lib. 5. sect. 2. sect. 72 cum notis Iacotii.

Ὑποδανόντων αὐτέων, ἢ πλευρὴ πελίη εὑρίσκεται.
Hippocr. de victu acut. l. 1. sect. 35.
Isbrand. a Diemerbrook de pest. c. 14. sect. 7.

Hippoc. aphor. 33. sect. 6.

so *Oxymel* and *syrup of Vinegar* in *Pleurisies*? But 'tis evident that it is a *Feaver* accompanied with a *Catarrh* upon the *Thorax* and *Lungs*; and that it admits of a great *diversification* according as the *Galenical* humours do operate in it; and in the Cure a *different regard* is to be had to a *bilious* or *pituitous Pleurisie*, from what there is in one that is *sanguine*: as any man knows that understands *Physick*, or hath so much as read *Salius Diversus* upon *Hippocrates de Morbis lib.* 2. Or *Forrestus's Observations*, lib. 16. It was the advice of *Hippocrates* at first to try to *discuss it* by *fomentations*: if they succeeded not, then in case the *stitches* seemed to diffuse themselves *upwards* towards the *shoulders*, to phlebotomise the Patient, and let him to bleed largely until the *colour changed*, from *corrupt* to *red*, or from *pure* and *red* to *blackish*: But in case the pains descended below the *Diaphragme*, then to purge with *black Hellebore*, or *Peplium*. The reason upon which he seemed principally to go was, that a *Physician was to imitate the progress of Nature*, and to carry off the peccant humours by such wayes as he inclined them to go: which in one case appeared to have a tendency to the *Arm*, in the other to the *Bowels*. But *Galen* considering the uncertainty that is in the operation of *purging Medicaments*; as also the hazard of *irritating inflammations* thereby, and the diverting that *sputation* which is so requisite in that *disease*: and that since a *Looseness* was perillous therein, *purging* could not be *safe*: and I suppose that the sad case of *Scomphus* may have discouraged him from it: who being *purged* in a *Pleurisie*, became *frantick*, and died on the *seventh day*: the discourses upon which *lamentable History*, in *Vallesius* and *Van der Linden* do deserve to be pondered: The *purge* did not *work much*, yet killed him. Some other cases as sad as this are recorded: upon the account whereof the generality of *Physicians* have prudently been swayed from *purging* in

Hippocrat. de victu in morb. alcuct. l. 2. cum notis Vallesii. p. 42.

ὑπὸ πλευρίτιδος ἢ περιπνευμονίης ἐχομένω, διαῤῥοίη ἐπιγενομένη, κακόν. Hippoc. aphor. 16. l. 6.

Valles. in Hippocrat. Epid. l. 6. p 456. & Van der Linden select. Medic. c. xii.

Hippocr. Coac. prænot. l 5. sect. 2. sect 25.

a *Pleuriſie* until the latter end: Becauſe it is very convenient in a *Pleuriſie* that the body be *moderately ſoluble*: they do give their Patients *Glyſters*: and becauſe the diſeaſe is a *Catarrh* accompanied with a *Feaver*, they conceive their main work to be this, *to prevent the increaſe of the fluxion*, by diverting the courſe of the *Blood* another way: and to *evacuate by a concoction* and expectoration the matter *inflamed* and impacted. To do this, they place the *beginning* and *foundation* of the Cure in *Phlebotomy*; yet do not *we* now inſiſt upon their bleeding to a *Lipothymy*, or till the *colour of the blood change*, but rather chuſe to *proportion* our *Phlebotomies* by other conſiderations; eſpecially ſince it is viſible in the caſe of great *fluxes of Blood*, that *revulſion is beſt performed by partite, and, after ſome intermiſſion, repeated phlebotomies*: and in order to the *Anacatharſis* or expurgation by *ſpittle*, we do give them all befitting means to *expectorate concocted matter*: and uſe *anodyne unguents* and *fomentations* in order thereunto. There was heretofore a great quarrel about *bleeding in a Pleuriſie*, which arm it ſhould be adminiſtred in, and in what *vein*: But thoſe are not the conteſts of *this Age*, wherein it is agreed to bleed on the *ſame ſide that is affected*, and to repeat the *phlebotomy* on the *contrary foot* or *arm*. Neither ought there to be any diſpute about repeating *phlebotomy*, ſince the firſt occaſion thereof *continuing*, or upon a *recrudeſcence* urging us again thereunto, if the *Patients ſtrength* can bear it, we ought to repeat it. In this caſe the *Methodiſts* and *Galen* are reconciled; and I ſuppoſe it moſt evident upon *thoſe Principles* I have laid down. For if the *Habit of the Body in a Pleuriſie be become too adſtrict*, then is it neceſſary to relax it and if the *diſeaſe be great*, by as *great remedies*; now their

Veſalius ſaith, that all the *quarrels* about the *different Phlebotomies* in a *Pleuriſie*, were *Rixæ de lana caprina*. *Veſal.* exam. obſ. *Fallopii*. p. 129. yet this is evident, that *Nature delights to evacuate diſeaſes of the liver by an Hæmorragy of the right noſtril; of the ſpleen, by the right*. And that there is as it were a *ſeam in the body*, is *apparent in the Palſie*. So that 'tis *wiſdome* for us to imagine, that 'tis not *indifferent* what ſide *we bleed on*.

their *grand relaxatory* is Phlebotomy: and after a *vomit*, they uſed it: yet had they this care, not to *bleed too much*, leaſt the body being too much *relaxed*, ſhould not be able to concoct the *impacted matter*: and the *Galeniſts* do give the like caution, that we have a care of hindering the *ſuppuration* by *importune Phlebotomies*. I find *Hippocrates* to have blooded *Anaxion* upon the eighth day: *Forreſtus* gives us Inſtances of the like nature. That frequent *Phlebotomies* in the ſame *Pleuriſies* have been practiſed *very beneficially*, is evident upon *record*: and in *Holland* I find *Tulpius* to accord with the *French* and *Spaniards*, and to allow, if the diſeaſe be violent, that the *Pleuritic* bleed *three*, nay *five* or *eight times*: and gives ſuch Preſidents for it at *Amſterdam*, as may juſtifie us at *London*. I will recite one caſe of his.

Valles Meth. med. l. 4. c. 2. *Riolanus* de circular. ſangu. c. xx. *Forreſt*: Obſ. l. xvi. Obſ. 33. in Scholio.

Tulpius Obſ. l. 2. c. 1, 2, 3.

Tulpius Obſ. l. 2. c. 2.

" *Uxori Cuſparis Walendalii, inſurrexit, octavo a* " *partu die, acerbiſſimus lateris dolor: repetens identi-* " *dem, tot inſultibus, ut neceſſe fuerit, ter pedis, &* " *quinquies brachii exoluere venas: antequam compri-* " *meretur, ſanguis, a ſuppreſſis menſtruis ſurſum raptus.* " *Sed ea fuit ipſi virium conſtantia: ut præter ſangui-* " *nem toties detractum, ſuſtinuerit inſuper ingens alvi* " *profluvium, antequam integre, evicerit hunc mor-* " *bum.*

There is a great variety in the practiſe of *Phyſicians* as to *Phlebotomy*, ſome uſing it *more frequently* than others do: whether theſe be rash, or the others *indiſcreetly timerous*, I will not determine now: Both may *do well* as to the *recovery of the Patients*; becauſe a *judicious* perſon ſupplies one *Medicine* by the uſe of another: But theſe *Baconical Ignoramus*'s cannot do that. I find that *Forreſtus* ſeldome, if ever bled his

Pleuritics above once: and *Blondelus* assures me, that the Peasants of *France* bleed but once in a *Pleurisie* at the beginning, and recover. "*Plebeii fere omnes* 'una vice contenti adire Medicum, una sola adhibita 'venæ sectione curantur, & ex decem unus vel duo emo- 'riuntur, & aliquando omnes sanantur. Without all controversie *Phlebotomy* is one of the most *generous remedies* in the World, if a man understand the Art of using it: But 'tis our old Books, and not the *Novum Organum* of my Lord *Bacon*, or the insipid Writings of the *modern Experimentators* will qualifie a man thereunto. I do believe that *Botallus* did the *wonders* he speaks of, but as there were left-handed *Catoes* heretofore, so there is many a left-handed *Botallus*, that would imitate his *practise*, yet wants his *judgment* and *learning*. I would advise *such* to be *tender* how they deal *much* in this *noble remedy*, or rather that they would totally desist from *practising Physick*.

Almaricus Blondelus de venæ sectione, p. 50.

I know that in *Germany* most are *scrupulous* about reiterated *Phlebotomies*, yet *Platerus* commends it in *Pleurisies*, and adviseth to bleed frequently, even twice in a day in the beginning of the Disease. 'Tis not that the *people* there *cannot* bear it so well as in *France*, or *Spain*, but that they *will not*: There was a time when *Galen* thought that such as the *French*, could not bear will the *loss of blood*: and *Valleriola* did imagine that the *Moors* and *Spaniards* could not endure it so well as the *Dutch*, or *French*: there was a time when to let a *Woman with child blood* in *England*, was esteemed impracticable: and the Lady *Drury* was a *bold* Lady, that in the dayes of Queen *Elizabeth*, durst obey *Botallus* therein, against the opinion of the greatest *English* Doctors: But a greater *maturity of judgment*, and the *good success* hath undeceived us, and convinced us, that our fears were but *panick* and *vain*: and in opposition to *Galen* and *Hippocrates* we accord with *Celsus*.

Platerus prax. t. 2. c. x.

I. *Riolan.* de circulat. sang. c. 20.

Botallus de venæ sect. c. 3.

"*Siquidem*

C. Celſus Medic. l. 2. c. 10.

c.c *Siquidem antiqui, primam ultimamque ætatem ſuſti-*
c *nere non poſſe hoc auxilii genus judicabant; perſua-*
c *ſerantque ſibi, mulierem gravidam quæ ita curata eſſet,*
c *abortum eſſe facturam, Poſtea vero uſus oſtendit, nihil*
c *ex his eſſe perpetuum, aliaſque potius obſervationes ad-*
c *hibendas eſſe, ad quas curantis conſilium dirigi debeat.*
c *Intereſt enim, non quæ ætas ſit, neque quid in corpore*
c *intus geratur, ſed quæ vires ſint. Ergo ſi juvenis*
c *imbecillus eſt; aut ſi mulier, quæ gravida non eſt, parum*
c *valet, male ſanguis mittitur, emoritur enim vis, ſiqua*
c *ſupererat, hoc modo erepta. At firmus puer, & robu-*
c *ſtus ſenex, & gravida mulier valens, tuto ſic curantur.*

I have ſeen ſome of *all Ages* phlebotomiſed, and have preſerved the lives of ſome ſmall Children by that means; even *Pleuriſies*. But the effects of *Phlebotomy* in a *pleuritic* woman, which was within a *fortnight* of her time, are remarkably deſcribed by that *cautious Practitioner, Baldaſſar Timæus*: He did not ſcruple to let a *gravid* woman *blood*, but ſhe was ſo *far gone*, as that he trembled: c.c *Tandem non tantum adſtan-*
c *tibus mulierculis, ſed & ipſa ægra venæ-*
c *ſectionem vehementer urgente, exemplo* Pe-
c tri Salii Diverſi, *qui ultimo menſe, & in-*
c *ſtante partus tempore feliciter venum ape-*
c *ruit, jeci aleam, & ſecta mediana ſangui-*
c *nem ad uncias circiter ſex detraxi, & ſic*
c *optato ſucceſſu & matrem & fœtum a præ-*
c *ſentiſſimo vitæ periculo, Dei gratia, liberavi.* There are a multitude of things to be conſidered by him that would *judiciouſly* practiſe Phlebotomy in *Pleuriſies*; beſides what I have intimated: as *Whether it ſucceed another diſeaſe*, as the Meaſils, *or be primary: Whether it be complicated with other diſtempers, or ſolitary: Whether it be crude, or upon concoction: Whether it be likely to be long, or ſhort: Whether the Patient do expectorate, or*

I have ſeen *Ladies* with child to be let *blood*, when they were continually *ſwooning*, and *fainting*, and extream weak: and that *judiciouſly*: for they having *large veins*, and otherwiſe a *firm* and *imperſpirable habit of body*, we did not regard the *Animal imbecillity*, nor the *irregularity* of a *pulſe* altered by *vapours*, but proceeded to cure them by *Phlebotomy*: and it proſpered.

Baldaſſ. *Timæus* reſponſ. Medic. 58.
Petrus Salius Diverſus de affect. particular. c. xxii.

or not, If he do; what colour, and what consistence, or taste the evacuated matter hath: Whether the disease be upon a recrudescence, or not: These are circumstances which he ought well to understand, for as to the time of *phlebotomy*, 'tis one in a long disease, when the beginning is protracted to *seven, ten* or *seventeen* dayes; and another in that which will terminate in *seven dayes*: the *urgency* is one in an *incoct* Pleurisie, when nothing is (in due time) expectorated; and another, when *blood*, or *purulent* but *benign* matter is avoided: and another when the matter is *black, livid, very yellow*, or *stinking*, or *sweet to the taste*: the case alters when Nature doth ease her self by a *propitious looseness*, and when it is an importune *Diarrhæa*: when it turns to an *Empyema*, and when it proceeds to an amicable *Crisis*. These things are to be pondered by the *Physician*, and his repute is not to be questioned, for *his actings*, by such as understand not the *case*, or apprehend not by what *exigences* and presidents the *intelligent Practitioner* is guided. Men ought not to judge of Diseases by their *names* only; and condemn a *knowing man* for doing that in *one disease* at one time, which neither *they* nor *he* would adventure in *another*: and since it is not allowed *us* to abandon our *Patients* in some cases, according to the advice of *Hippocrates*: give us leave to make use of that *Apology* which *Celsus* doth suggest unto us: "*Fieri tamen potest, ut morbus quidem id desiderat, corpus tamen vix pati posse videatur: Sed, si nullum tamen appareat aliud auxilium, periturusque sit, qui laborat,* nisi temeraria quoque via fuerit adjutus, *in hoc statu* boni Medici *est ostendere, quam nulla spes sine sanguinis detractione sit; faterique quantus in hac ipsa re metus sit, & tum demum, si exigatur, sanguinem mittere.* De quo dubitare in ejusmodi re non oportet *Satius est enim anceps auxilium experiri, quam nullum.*

c. Celsus Medic. l. 2. c. 10.

Let the World rest assured, that an understanding *Galenist*

leniſt doth nothing *raſhly*: that he conſiders of all circumſtances, and knows their caſe better than themſelves; that he hath as great a regard to the preſervation of their *vital ſtrength*, as they can wiſh: and apprehends when to *deſiſt*, and when to *operate*, and *in what manner*: but theſe are *myſteries* to the *Baconiſts*: and I can give no better directions to the *ſick*, than that *they would apply themſelves to a prudent Phyſician*, rather than *Quacksalvers*, and *refer themſelves to his judgment*, without impoſing *their own*, or that of *ignorant Experimentators*, and *Arcaniſts*. And ſo much concerning *Phlebotomy* in *Pleuriſies*: the more exact handling whereof, and the accommodating of the Method of *Rulandus* to that of the *Galeniſts*, muſt be the ſubject of *another diſcourſe*: I add only, that *Nature* it ſelf doth teach us the uſe of *Phlebotomy* in *Pleuriſies*; for *they are often accompanied with a bleeding at the noſe*, in the beginning, which is *beneficial* to the Patient. *Larvi ſanguinis fluxus ex naribus multa ſolvunt, ut Heragoræ. Non agnoſcebant Medici.* Though it happen *ſymptomatically*, yet is it frequently *advantageous*, even in *Pleuriſies*: nay 'tis an accident we may commonly expect in them: *Quibus febricitantibus rubores in facie, & capitis vehemens dolor, venarumque pulſus, iis ut plurimum fluor ſit ſanguinis*: and in a *Pleuriſie*, 'tis alwayes the moſt *mild* and *ſafe*, if the Patient begin his *Anacatharſis* by a *ſub-cruent ſputation*. In fine, ſhe uſually *terminates* this Feaver by an *Hæmorraghy* at the Noſe, which if it be *ſmall* doth portend *evil*; but if it be *large*, is beneficial. *Pleuritis larga hæmorrhagia enaribus judicare poteſt, ſtillatione non poteſt.* And this *good fortune* did recover *Demoſthenes* out of an incurable *Pleuriſie*, as he relates it himſelf. "*Febres me continuæ ſequebantur, & cruciatus totius corporis perquam vehementes & atroces: imprimis vero laterum & imi ventris: nequæ cibum capere poteram; & ut Medicus quidam affirmabat, niſi mihi*

Hippocr. Epid. l. 2. ſect. 3. p. 102. cum notis *Valleſii*. *Proſp. Alpinus* de præſag. vita & morte. l. 7. c. 2. *Coac.* prænot. l. 4. v. 30. *Proſp. Alpinus* de præſag. l. 7. c. 16. *P. Saluà* com. in lib. 1. de *morbis*, p. 170. *Holler.* apud *Iacot.* in *Coac.* l. 5. ſect. 2. ſect. 59. *Demoſth.* adv. *Canon.* citante *Beverovicio* de Med vet. part. 3. c. 7. p. 312.

'*mihi doloribus afflicto, & jam desperata purgatio san-*
'*guinis ultro copiosa supervenisset, me saniosum* (ἔμπυον)
'*factum fuisse periturum*: nunc is sanguis recessu mihi suo saluti fuit. I have not the original *by me*, to consult the *Text*: but whether it were at the *Nose*, or by *Stool* (I believe the *former*) it is all one to the *present purpose*; but it may seem pertinent to observe, that those which *bleed* much at the *Emeroids* are not incident to *Pleurisies*.

Hippocr. Epid. l. 6. sect. 3. p. 665. cum notis *Vallesii*.

The subject of my next discourse must be concerning *Phlebotomy* in the Small Pox: My Adversary blameth Doctor Willis for allowing of *Phlebotomy* in the Small Pox, *upon the nick of their eruption*: but by way or Argument against the judgment of that eminent *Practitioner*, he alledgeth nothing but this: '' *Make this good* by fact, *that 'tis profitable and necessa-*
'*ry in any such case to open a vein* (for αὐτὸς ἔφη, *will*
'*never carry with me*) *then I shall forthwith become a*
'*Proselyte to your Method. Assuredly this, I am certain*
'*of it, was neither profitable nor necessary for the Nation,*
'*that we should by this means loose three persons of the*
'*noblest extract.*——I have alwayes looked on the discourse of that Learned man *concerning Feavers*, as one of the most *judicious Writings* that ever our *Faculty* produced: 'tis succinct without *obscurity, and without the omission of any circumstances that frequently or rarely fall under the consideration of a Physician, and the* practise, *as well as* Medicaments *so* safe, *so* authenticate *according to the* Rules of Art *and* practical Observations (which we preserve) that *'tis above all the effects of* Envy *and* Malice.

pag. 80.

It is a great abuse to the Doctor which this Baconfaced *Helmontian* put upon him, as if he approved *generally* and *indefinitely* of bleeding in the Small Pox *upon the nick of their eruption*. It appears *there* not to be his practise, but upon urgent cases; and

he,

he, on purpose relates an *History of its evil effects*, thereby to deterr others from using *Phlebotomy* rashly *in that disease*. I shall repeat his *words*, and *method* of curing it, as far as relates to the *beginning of the disease*.

" *Quoad primum intentio sit, ut naturæ impedimenta* Willis. de febr.
" *quævis auferamus, quo sanguis, variolarum fermento in-* c. 15.
" *quinatus, & coagulari aptus, adhuc motum æquabilem in*
" *corde & vasis stagnatione retineat, ac efferveſcens por-*
" *tiones cum veneno gelatus foras expellat: interim cau-*
" *tio sit, ne fermentationis, seu efferveſcentiæ opus ulla-*
" *tenus cohibeatur, aut nimium proritetur: hoc enim cru-*
" *oris massa plus debito in portiones congelatus agitur, isto*
" *restringitur nimis in motu, nec particulæ venenatæ cum*
" *cruore gelato foras emandantur: natura a secretionis*
" *& expulsionis opere impedire solet nimia excremento-*
" *rum congerie in visceribus, aut sanguinis exundantia in*
" *vasis; quare primo statim morbi insultu deinda erit*
" *opera, ut evacuatio per vomitum, aut sedem, si opus fuerit,*
" *tempestive procuretur, pharmacis tantum mitioribus &*
" *blandis utendum est, quæ nimirum non irritent, aut hu-*
" *mores perturbent: quare hoc tempore interdum emetica,*
" *purgantia, aut enemata, modo hæc, modo ista locum ha-*
" *bent: etiam sanguinis missio si plethora adsit, bono*
" *cum successu celebratur.* ——— *Circa missionem*
" *sanguinis instante variolarum eruptione valde ambigi-*
" *tur: olim inter nostrates hæc res sacra audiebat, neque*
" *sub ullo necessitatis prætextu Phlebotomia admitti sole-*
" *bat: nuper autem experientia duce in quibusdam casibus*
" *sanguinem mitti omnino utile & necessarium esse com-*
" *probatur: quæ tamen evacuatio si in quavis constitu-*
" *tione indiscriminatur adhibeatur, aut quando isthac*
" *opus fuerit, in quantitate nimis larga peragatur, magna*
" *sæpe incommoda exinde sequuntur.*

These are the words of that *intelligent person*; whereas——*G. T.* seems in the *English* Text to affix upon him such a *sentiment* as if he allowed *commonly*

and *indiſcriminately* of *Phlebotomy* in the *very nick of the coming out of the Small Pox*: But it may be replied, that he hath done the Doctor *juſtice* in the *Latine citation*: but I think *not* amongſt *Engliſh Readers*, nor in his *vulgar diſcourſes*. However I ſhall endeavour to juſtifie the aforeſaid *Method* of Doctor *Willis* as *Artificial*, and agreeable to the *opinion* and *happy practiſe* of the beſt *Phyſicians*: and that it may be more manifeſt, I will inlarge *my work*, by examining the *contrary opinions* of ſome *others*: for——*G. T.* gives my Pen *here* no employment, except it be to tell him, that the *three noble Perſonages which he ſpeaks of were not the* Doctors Patients, as I believe: except he be accountable for all that act agreeably to that *Method* which *He* (and our beſt *Phyſicians*) layes down: I add, that many actions are warrantable by Art and Prudence, which are not ſucceſsful: and to requite *his Catalogue*, I would have him know, that when this young King of *Spain* had the Small Pox, he was let blood ſeveral times: and ſo was the preſent Queen of *France* upon a feaveriſh indiſpoſition let blood *twice*, in 1663. and two dayes after the *Meaſils* appeared: And this Lewis xiv. being ſick of the *malignant and peſtilential Small Pox* was thrice bloded by Doctor *Vautier*: and for *it*, received this *Elogy* from the learned *Jacobus Thevart*.——*Ut boni omnes Galli palam profiteantur ac prædicent ſuum ſe tibi debere Regem chariſſimum, quem nempe malignis ac peſtilentibus variolis periculoſiſſime laborantem non cordiacis tantum præſidiis (ut Medicaſtrorum quorumcunque vulgus ſolet) ſed & ipſa, quam in ejuſmodi affectibus averſantur ac damnant, ſanguinis miſſione* ter, *pro ſymptomatum urgentium neceſſitate, repetita, ſalvum & incolumen reſtituiſte, innumeris interim in hac urbe populoſiſſima pueris hac Epidemica lue e medio ſublatis. Quod ob facinus tam egregium quæ non tibi laudes*, vir præſtantiſſime, *quæ non ſoteria debentur? Si qui civem Romanum in prælio ſervaverat, quercea*

Iacob. Thevart in dedicatione tomi tertii Conſil. Medicin. *Ballonii*, ad D.D. *Franciſc. Vautier* Archiatrorum Comitem.

quercea corona dignus habitus est, Tu certe qui Regem Christianissimum ab hoste tam infesto liberasti, auream, qualis est ab Athenien sibus Hippocrati concessa, meruisti. Nec dubito quin si vixisses priscis illis temporibus, quibus inter Heroas referebantur quicunque insigni aliquo facinore Rempublicam conservassent adjuvissentve; quin, inquam, ipse Heroum auxisses numerum, honoresque prope divinos accepisser. I repeat *this passage* with the more satisfaction, because it may serve as *example* to the *English*, and instruct *them* with what *gratitude* and *acknowledgments* they ought to treat the *learned* and *renowned Physician* Sir Alexander Fraser, *principal Physician to his Majesty*, for recovering our most gracious *Soveraign* of the like distemper, by the *judicious* administration of Phlebotomy. I could name many other *Persons of Honour*, who do confess that they owe their recovery out of dangerous and malignant Small Pox unto *Phlebotomy*.

Of those that have written concerning the Small Pox, and are *therein* professed enemies to Bleeding, I shall take only *two* particularly to task; the one is Doctor *Tobias Whitaker*, the other Doctor *Thomas Sydenham*: which I do the more willingly, because the *one* writing in *English*, the other practising at *London*, and endeavouring to *insinuate his principles* every where, with a derogation from the *authorised* practise of *Physicians*, it must needs seem that *all who do not take his course, have neither regard to the Patients, nor considered seriously the rise and progress of the disease.* I did at first doubt, *Whether I ought to reckon them as* distinct Authors, because they so far agree in the *Regimen* and *Cure of the disease*; that the *one* doth seem to have *stollen* it from the other: As will appear by this *Parallel*.

Doctor *T. Whitaker* of the Cure of the Small Pox, p. 22.

" In the *Regimen* of this Diſeaſe, the whole work
' conſiſts in *moderation of Air* and *Diet*, without
' any other mixtures of violence, or bland impedi-
' ments, which may altogether pervert, or *in* or by a
' leſs force retard Nature in its motion, the motion of
' Nature in this caſe being from the beginning of the
' diſeaſe to the eruption of the puſtules *Critical*, and
' in *Critical* motions the leaſt application of any Medi-
' cament is ſo dangerous, that no expert Phyſician will
' admit of it.——The Diet is to be *Alimentum medi-
' camentoſum*, ſuch as is *Milk* with *Saffron* and *Mari-
' gold flowers*.

" Doctor *Sydenham* doth ſuppoſe that it is natural
' for the Blood of all perſons at leaſt once in their lives
' to undergo a great change, and as it were a new
' form: and that there is no peculiar *venome* or *ma-
' lignity* infecting the *Blood*, but all is the reſult of this
' *inclination* in it to *exchange its ſtate*; and in order
' thereunto *ſome parts* are to be *expelled*; and in order
' thereunto muſt firſt be *ſeparated*: This is done by a
' Feaveriſh Ebullition in the maſs of blood, where-
' by *thoſe* parts are *ſeparated from the reſidue*, and diſ-
' charged into *fleſhy parts* of the Body, which Nature
' looks as requiſite in order to the change ſhe is going
' to make: All this is uſually done in *four dayes*, and
' the *Blood* is *recompoſed* and becomes as *calm in its mo-
' tion*, as it was before. The *expelled matter* is to be
' elevated into *puſtulary abſceſſes*, and there *maturated*
' and *dryed up*. For the carrying on of all *this work*,
' it is his judgment that the *Phyſician* ought to do no-
thing: But the Patient is to be kept in a *moderate
heat*, and *temperate diet*, taking nothing that is *cold*;
and

He obſerves that this Feaveriſh, or great *ebullition* is not conſtant to the *Small Pox*, but that the *ſeparation* and *expulſion* is frequently performed without any *great ſenſe* thereof, the Patient never confining himſelf to the *chamber*.

'and not ſo much as being confined to his *bed* beyond 'his ordinary uſe, except neceſſity require it, and then 'he is to uſe no more *clothes*, nor *warmth* than he accu-'ſtomed himſelf unto in *health*, not ſo much as being 'obliged to keep his armes in Bed. On the fourth 'day he gives them one *very gentle Cordial* to promote 'their *eruption*, and abandons them to *Saffron* and 'Milk, to be given twice a day, and ordains that he be 'kept in a *conſtant moderate warmth*, ſuch as is *natural*, 'and uſual to the Patient.

This is the ſum of his *Method*, except I add, that 'when they are upon *maturation*, he gives a *mild Cor-'dial* twice each day, *morning* and *evening*: And in 'caſe that during the time of the *decumbiture* of the 'Patient by any accident a *new Feaver* ariſe, then is the 'Patient to be kept ſtill in ſuch a *proportionate heat* as 'is uſual to him in health, if the ſeaſon be temperate, he 'is not to have a fire; to be dieted with *ſmall Beer* and *Water-gruel*, *ſtewed Apples*, or the like, but to 'have no *Cordial*, not ſo much as *Harts-horn poſſet-'drink*.

By this *Method* Doctor *Sydenham* doth not doubt but *this diſeaſe* which ſo afrighteth people, and is ſo frequently *mortal*, will paſs off with much *gentleneſs*, *eaſe* and *ſafety*.

Betwixt theſe two there is a little diſcrepancy in their *Method of curing the diſeaſe*: though there be ſome in *their expreſſions*, and Doctor *Sydenham* doth ſeem the *Comment*, the other the *Text*. Both of them oppoſe *Phlebotomy*, *Vomits*, *Purges* and *Glyſters*, as well as *Sudorifics*. Though they differ in the reaſon for their rejecting *Phlebotomy*; For Doctor *Whitaker* doth avow, that *it draws from the Circumference to the Center*: But Doctor *Sydenham* yields, that *it produceth a quite contrary motion, and cauſeth the Small Pox to come out*.

Doctor

p. 65. Doctor *Whitaker* doth avow, that this course of *his* is the old English Method, and the ancient, national and successful government of our Nation. But Doctor *Sydenham* would seem to erect *his practise upon his own Observations*; though all he propose (in a manner) be no more than the *common actings of Country-people*; (except when by any accident the *Feaver* be exasperated in the *beginning*, or *progress*, that he *prohibits Cordials*) and what I belive was derived from *Avenzoar*, and *Fracastorius*.

Forrest. obs. l. 6. obs. 44.

p. 25. Of these Writers it is remarkable, that Doctor *Whitaker* doth never allow that there can be any *malignity* in the Small Pox so great and *urgent*, as to induce a *Physician* to intermeddle beyond a *moderate Diet*, and *temperate Air*: because the *Motion being* Critical, *admits of no violence*. But this is a great Errour in the *fundamentals* of *Physick*. For, first in Diseases complicated with *malignity*, not only the *prognosticks*, but the issues are very *uncertain* as to *life*, or *death*, and the Critical *evacuations* deceitful, so as that oftentimes they bring a *momentany alleviation*; oftentimes, notwithstanding *those evacuations*, the distemper increases, and the Patients dye: This every man understands who is conversant in our accounts of *Malignant Feavers*; so that to grant at any time that there is a *malignity*, or *venenate indisposition* in the sick, and to abandon him to a *temperate Air* and *Diet*, relying upon *Saffron* and *Milk*, is a practise never to be justified in *Physick*. But alas! we are not to be affrighted with the *bug-word*, Critical motion, nor half an Aphorisme out of *Hippocrates*; viz. *Quæ judicuntur, sinere oportet*. These *general sentences* neither qualifie a *Doctor in Law*, nor a *Physician*: It becomes us to consider in a Critical motion several things:

Prosper. Alpin. de præsag. vit. & morte. lib. 6. c. xi.

First, (Supposing it to happen in its *due time*) we must consider whether it be only a Motion, or whether

ther it be proportionate to the Disease: for no *evacuation* that is *diminute*, is properly *Critical*: If therefore the *pathognomonies* of the Disease be such as argue a multitude of the *Small Pox* to be requisite for the *recovery* of the sick, and only a few come out, the *Physician* is obliged to assist Nature.

Secondly, Supposing that *they* do come out *plentifully*, yet if they be not such as should come out, but *black*, *livid*, *green*, or interspersed with *purple spots* (not to mention other circumstances, which every *Nurse* can tell) 'tis certain that the *evacuation* (how *critical* soever) doth not oblige the *Physician* to stand an *idle Spectator*: No more ought *he* to be in case that all *symptomes* increase upon the *critical* motion, and his *Feaver* and *dangers* multiply thereupon. Τὰ χωρέοντα μὴ τῷ πλήθει τεκμαίρεσθαι, ἀλλ' ὡς ἂν χωρεῃ ὅτα δεῖ, καὶ φέρει εὐφόρως. *Hippocr.* Aph. 23 sect. 1. & aph. 25. sect. 1.

Thirdly, It is requisite that the *Critical evacuation* be *per loca conferentia*, by such wayes *as are necessary to the disease*: But if the Small Pox during their eruption be attended with a *dysentery*, *bloody urine*, or other *pernicious excretion*; that scrap of *Hippocrates* will not excuse the *Physicians* negligence; for it supposeth that all the *conditions* requisite to a *good evacuation* be found in that which the *Physician* is *not to intermeddle with*. I need say no more to *intelligent persons*: 'tis not my present work to turn Institutionist.

Whether Doctor *Sydenham* intend to ascribe *sense*, *appetite* and *judgment* unto the Blood I cannot well tell; but either He canteth in *Metaphors*, or explaineth himself, in his general *Hypothesis* about Feavers, as if his meaning were such: "*Quinimo nec, mea* 'sententia, *minis liquet febrilem sanguinis commotionem* 'sæpe (*ne dicam sæpius*) *non alio collineare, quin* ut 'ipse sese in novum quendam statum, & diathe'sin immutet, *hominemque etiam cui sanguis purus* p. 4, 5.

'&

'& *intaminatus perſtat, febre corripi poſſe: ſicuti in*
'*corporibus ſanis evenire, frequenti obſervatione com-*
'*pertum eſt, in quibus nullus apparatus morbificus, vel*
'*quoad plethoram, vel quoad cacochymiam fuerit, nulla*
'*inſalubris aeris anomalia, quæ febri occaſionem ſubmi-*
'*niſtraret. Nihilominus etiam hujuſmodi homines, præ-*
'*cedente inſigni aliqua aeris vel victus; cæterarumque*
'*rerum non-naturalium (ut vocant) mutatione identi-*
'*dem febre corripiuntur; propterea quod* eorum ſan-
'guis novum ſtatum, & conditionem adipiſci
'geſtit, *qualem ejuſmodi aer aut victus poſtulaverint:*
'*minime vero quod particularum vitioſarum in ſanguine*
'*ſtabulantium irritatio, febrim procreet.*——

'Tis true *he* did not pen it in *Latine*, but another (Mr. *G. H.*) for him: and perhaps his ſkill in *that tongue* may not be ſuch, as to know when *his* thoughts are rightly *worded*: But it ſeems *ſtrange* and *irrational* to attribute ſuch an **underſtanding** to the *Blood*; and to tranſmute a *natural Agent* into one that is **ſpontaneous**: and, which is more, having repreſented it *as ſuch*, to make it ſo *capricious* as not to know *when it is well*; but to run *phantaſtically* upon ſuch *dangerous changes* as occur in *putrid Feavers*, and the *Small Pox*; for even in *this laſt* ariſeth from *a deſire* p. 127. *the Blood hath to change its ſtate.* Since *natural Agents demean themſelves uniformly*, and of *them* 'tis moſt true, *Idem, quatenus idem, ſemper facit idem*: I was ſurpriſed to ſee theſe *new principles*, and to ſee *effects of this nature ariſe without any cauſe.* It doth not ſeem *poſſible* for him ever to demonſtrate that there is no *Plethora*, or *Cacochymy*, or *obſtipation of the pores of the body* antecedent to a *Feaver*: nay the contrary ſeems evident to all *Phyſicians*; nor ever was there any whereunto they did not attribute ſome *procatarctick* cauſe. Beſides, he doth not alledge any *Reaſons*, or *Experiments*, to ſhew that there is any *alteration in the blood* before and after the *Small Pox*, or a *Feaver*, or any

any difference betwixt the *Blood* of ſuch as have had *thoſe diſeaſes*, and of thoſe which have *not had them*. So great a *ſuppoſition* ought not to be made *without ground*. And ſince it is *natural* (and *Nature* is conſtant) why is not the *Diſeaſe* more *ancient* and *univerſal* than it *appears* to be? For, if there be any grounds to think the Small Pox to be of long continuance, 'tis certain 'tis but ſeldom ſpoken of by any old Writer: perhaps once by Hippocrates (yet ſo as never to be *underſtood* by any that hath not ſeen the indiſpoſition) and never by Galen. It may be imagined to have come from *Ægypt* by *contagion*, and might have been called Βυβασμὸς ἴλιγξ, *Quia urbi Eubaſti Ægyptiæ familiaris hic morbus*. It infeſteth *ſome places* more than *others*. In Græcia non adeo frequens. Ideo antiquiores Medici vix ejus meminerunt. In the *Weſt-Indies* it was not heard of till the *Spaniards* came thither: and *they* (as alſo the *Engliſh* there) ſeldome have *it*. I believe the Diſeaſe to be novel, and of no longer *date* than the *Sarracenical* revolution: I could inſtance in the nature of ſuch *great alterations*, that *they* have *ever* been *preceded* and accompanied with many *petty changes* in other things: and if ever I have ſo much *vacant time* as to make *political reflexions* upon the riſe of Mahomet, I may declare much to this *purpoſe*. This is that *invidious ſubject* about which Ecebolius Glanvill makes ſo much *noiſe*: as if, to avow that Mahomet were a Gentleman of noble extraction, married to one who for *birth*, *riches* and *beauty* might have been a Princeſs; and accompliſhed with that ſober Vertue, Wit, Eloquence, and Education, by much travel (for he travelled all over *Ægypt*, *Africk*, and *Spain*) as to render himſelf one of the moſt *conſiderable of his Age*: or to ſay that the Chriſtians were ſo *ignorant*, and *debauched*, and *perfidious*, and addicted to *Legends* more than to the *ſound Doctrine of the Goſpel*, at that

Salmas. de annis Climacter. p. 726, 727. 'Tis *Epidemical* to *Ægipt* at this day. *Proſp. Alpin.* de med. *Ægipt.* l. 1. c. 14. *Roderic. a Fonſeca* Conſult. Medic. t. 1. conſult. 48.

time, that most of the *Fables* in the Alcoran were accommodated to the *honour of the times*, more than to truth (and so *Muhamet* told them) or to say he pretended to revive Ancient Christianity; were to be an Apologist for the Mahometans, and an abettor of the Alcoran: Whereas none but the Illiterate can deny *these things*: and the *Age* our *Virtuoso* speaketh of is the Age of *Apostacy*, according to the Doctrine of our Church. Oh Heavens! to what an height is Impudence and Ignorance arrived! Or what can be safe, if so *prudential* and *generous* a design as I had must be *calumniated* by such a R——in *this manner!* Bnt to resume my discourse, in the behalf of *my opinion* concerning the *novelty of this disease*, (besides what the learned *Mercurialis* hath said) I shall conclude with the words of *Rodericus a Fonseca*, which are these. "*Si ex nativitate esset, ab initio* "*mundi fuisset, aut saltem ita frequenter tunc, ut nunc* "*solet esse: et licet antiqui aliquam de his pustulis men-* "*tionem fecisse visi sint, ea certe exigua est, & dubia, ut* "*certum sit, vix illis temporibus fuisse talem morbum:* "*negligentissimi certe habendi essent, si tam ingens, com-* "*mune, & frequens malum; illotis manibus, silentio in-* "*voluissent: & cum morbus sit puerilis, Hippocrates eas* "*numerasset inter ætates*, 3. Aphor. *ubi diligentissime pue-* "*rorum morbos connumerat; & tamen nullam hujus mali* "*fecit mentionem: sed illud satis demonstrat, hunc mor-* "*bum novum esse; quod in multis mundi partibus nun-* "*quam visus fuit, ubi nunquam apparavit, nisi postquam* "*Hispani eo pervenere: siquidem per contagium Æthio-* "*pis cujusdam illuc delati, magnam Indorum partem su-* "*stulit.*

Roderic a Fonseca in append. ad *loc. chin.* de febr. c. 54. vide & *Ranchin.* de morb. puer. sect. 2. c. 1. p. 258. *Hofman.* Animadu. in *Monton.* c. 7. sect. 15. & Instit. l. 3. c. 109. sect. 1. & *Nardicii* noct. genial. 7 p. 456, 457.

I might here insist upon the *Hypothesis* of Doctor *Sydenham*, concerning the Inclination of the Blood to change its state: I cannot believe but that the Physicians understood themselves as well *before he writ*;

writ; when it was ſaid, that *there was in every one that was born, ſomething of impurity in the body, which was* naturally *to be purged out by an ebullition in the blood, and ſuch an effervescence as terminated in thoſe* Abſceſſus *called the* Small Pox. ', *Quandoque accidit* Avicenna de febribus, c. 6. de variolis.
' *in ſanguine* ebullitio *ſecundum ſemitam putredinis*
' *cujuſdam de genere ebullitionum quæ accidunt ſuccis :*
' *& talia quidem accidentia fiunt per eam, ita ut partes*
' *eorum ab invicem diſcernantur. Et de hoc eſt cujus*
' *cauſa eſt, res quaſi naturalis faciens ebullitionem ſan-*
' *guines, ut* expellatur *ab eo illud, quod admiſcetur ei de*
' *reliquis nutrimenti ſui menſtrualis, quod erat in hora*
' *imprægnationis, aut generatur in eo poſt illud ex cibis*
' *fæculentis, & malis, de illis quæ* rarificant ſubſtantiam
' ejus, & faciant eam ebullire, donec fiat & ſubſtantia
' recta fortior prima & magis apparens : *ſicut illud,*
' *quod natura efficit in ſucco uvæ, ita quod rectificat ip-*
' *ſum, faciendo vinum ſimilis ſubſtantiæ : & jam ex-*
' *pulſa eſt ab eo ſpuma aerea, & fæx terrena.* He that can *Engliſh* this paſſage will find in it the ebullition, ſeparation, expulſion and deſpumation of our Doctor. In truth thoſe *terms*, nor that which *he* imports by *them* are no *novelty* amongſt *Phyſicians* : and *Rhaſes* (as *Sennertus* ſaith) doth not make any mention of thoſe *uterine impurities* as the cauſe of the Small Pox, but *compares the Blood to* Muſt, *in which ſome impurities are to be ſeparated by* Ebullition. Wherein the whole *Hypotheſis* of *this ſemi-Virtuoſo* is contained : However, I cannot allow *any more* to *his Obſervations*, than if a man *ſhould go without his doublet*, and pretend to a new Mode *of wearing Breeches*. But that which is moſt intollerable in Doctor Sydenham is, that He ſeems to attribute *all the evil conſequences of the* Small Pox *to the indiſcretion of thoſe that attend them*; be they *Nurſes*, or *Phyſicians*. Thus (p. 150. Edit. 2.) he makes as if *Nature* did diſcharge it ſelf in that *diſeaſe* into the fleſhy parts only :

Rhaſes de peſtilent. c. 1. *Sennert.* de febr. l. 4. c. xii.

only: so that if the *Eyes*, *Lungs*, *Stomach*, *Guts*, *Pancreas*, *or Membranous parts* be affected, 'tis not the *violence of the Disease*, but the *ignorance* of the *Attendants* which occasioned *that*: which is *intolerable* for any man to say, and refuted by *Experience*.

Hor. Augen. de febr. l. 9. c. xx. Steph. Castren. Quæ ex quibus, l. 3. c. 16. Th. Bartholin. Cista Medica, p. 594. Fernel. patho. l. 4 c. 18. & de abdit. rerum causis, lib. 2. c xii. Collado obs. in Holler. meth. c. 92. Io. Dan. Horstius obs. Anatom. 9.

I might proceed to demonstrate that there is not *any thing new* in the whole *Cure* which Doctor Sydenham useth: that in the beginning of the *Small Pox*, before the *eruption*, being as ancient as *Bayrus*, if not derived from the *Arabians*: And the *rest* hath been inculcated by an *hundred Writers*: provided the *Small Pox* were *gentle*: yet, as much as they have been for the keeping of them *moderately cool as to Air*, or *Diet*, before the *eruption of them*; yet I dare say our Doctor is the *first* whoever did imagine that the *longer* they were in coming forth the *better* it was. *Mihi quidem rationi consentaneum videtur, ut quo diutius Natura separationem molitur, ac perficit, dum modo ebullitio non omnino torpeat, eo certius atque universalius eadem separatio absolvitur.* For our best Writers, as *Mercatus*, *Angenius*, *Forrestus*, *Sennertus*, *Riverius*, *Ronchinus*, and others, do avow, that the sooner they appear, the better is the presage. But all this while his discourse extends no furtherr, than to that sort of *Small Pox* which is mild and favourable, not accompanied with any perillous or *mortal Prognostics*. but should any such case happen, these *two Doctors* leave us in obscurity, and we must *help our selves*, for they give us *little of assistance*.

Dr. Sydenham, p. 138.

In genere melius est variolos & morbillos icto, quam tarde erumpere. Sennert. de febr. l. 4. c. xii.

I shall therefore proceed to enquire what *directions* the most *judicious Writers*, and *Rules of our Art* prescribe unto us in *this Disease*.

It is confessed that the *Small Pox* are sometimes so mild as not to be accompanied with any *Feaver*, or evil *Symptome* at all, so that the *Patient* need not be confined

fined (at leaſt is not) to his Chamber, and any *ſtrictneſs of Rules*: This is granted by *Avicenna*, *Rhaſes*, *Schenckius*, *Hollerius*, *Epiphanius Ferdinandus*, *Coyttarus*; and *Franciſcus Rubeus*, whoſe words are theſe: *Variolæ aliquando ſine febre, & aliquando cum febre mihi & placidiſſima, nonnunquam cum febre acuta, & quondoque cum febre maligna erumpunt.* In *this caſe* there is no doubt but the *Phyſician* may do *nothing*, and *ought to do little*, there being no need of his aſſiſtance.

Coyttarus de purpur. febr. p. 245.

Rubeus Nocturn. exer. 7. in ſcholiis. p. 104.

It is confeſſed that *ſometimes* the *Small Pox* are attended with ſo *gentle a Feaver*, of the nature of a *Synochus ſimplex*, that the Patient may do very well, by the directions of Doctor *Whitaker*, and Doctor *Sydenham*. Yet muſt I add, that, *ſuppoſing the truth of theſe* two Caſes, I cannot conceive it proper to imagine that the *Small Pox* are *then* a Critical motion of Nature: there being in the *one juncture* no Diſeaſe whereof they ſhould be a Criſis; in the other no ſuch Diſeaſe as to diſcharge it ſelf in ſo *copious an evacuation*. The Notion of a Criſis in the production of the *Small Pox* will ſeem more *abſurd*, when we conſider how frequently it happens, that *notwithſtanding their coming out plentifully*, the Feaver doth ſtill *continue*, and increaſeth the dangers of the Patient. Beſides, How is it a *Criſis*, when there ſeldom proceeds any *Coction*, and when the *preceeding Diſeaſe* obſerves *no times?*

Of thoſe Diſeaſes which terminate by a *Criſis* there is a great *variety* in the *evacuation* inſuing thereupon, as an *Hæmorraghia*, *looſeneſs*, *ſweat*, *profuſion of urine*: but here, whatſoever the nature of the Diſeaſe be, a *Synochus ſimplex*, *putrid*, *malignant*, or *tertian* Feaver, the *Criſis* by the *Small Pox* is conſtantly the ſame: and the *expulſion* not only towards the *skin* and *habit of the body*, but every way, as on the *Stomach*, *Throat*, *Lungs*, *Guts*, &c. and after this *kind of Criſis* it frequently

quently happens that the Patient *dyes*, no *errour* intervening: whereupon *Joseph de Medicis* exclaims after forty years of practise. *Hei mihi, quoties malitiosæ variolæ me fefellerunt!* And *Augenius*, though he be inclined to the Opinion of Doctor *Whitaker*, to explain this *Crisis*, is forced to desert the vulgar notion of a *salubrious* Crisis, and include in its *definition*, even those that are *noxious*, saying out of *Galen*: *Crisis est mutatio quædam subita ad salutem, aut mortem:* and after all concludes thus: "*Hæc si vera sunt, ostendunt rectissime dixisse Arabes, variolas contingere* per modum cujusdam Crisis; *siquidem modus quidam est* particularis, *quo febris magna saneri crisi consuevit, longe distans ab aliis. Omnes enim aut per vomitum, aut per alvum, aut per urinas, aut per sudores sanantur; ut hujusmodi febris nullo ex illis sanatur modis, sed per solam superficiem, non extimam solum, ut ardentes febres, quæ sudore copioso superveniente liberantur, sed extimam & intimam simul, utque sic per abscessus parvos, quos pustulas nuncupavimus, ubique procreatos. Nunquam alvi fluore, nunquam vomitu sanantur; imo si forte adveniant, pessimum signum est.* But if we take *Crisis* and *Critical evacuations* in this sense, 'tis certain then that a *Physician* may and *ought* frequently to *intermeddle*, notwithstanding that *Nature* is already engaged *critically*, and the foundations of this *Doctor* are thereby overthrown.

Joseph de Medicis apud *Greg Horst.* t. 2. p. 56.

Hor. Augen. de febr. l. 9. c. 5.

I add, that if the *motion* of the *Small Pox* be *critical*, then is not the *Small Pox* properly a Disease *of it self*, but the termination of one. And therefore the *Arabians* did prudently say, that the *Small Pox* do happen, *per viam cujusdam criseos*, in the way of a *Crisis*, not that they are properly the *Crisis* of *another disease*. They are generated by an effort of Nature, which dischargeth it self of certain humours which are offensive unto her by their *quantity*, or *quality*; and this is done not by their eruption in the *exteriour parts*, but even

Avicenna de febr. c. 6. with whom agrees *Fracastorius*, and, I think, the generality of *Physicians*, who make it to bear some *resemblance* of a *Crisis*, but not a *Crisis*.

even in all the *entrails*, and other internal parts: and ſometimes this *evacuation* is a diſcharge of ſo *crude*, *malignant* matter, that it is *deſtructive* to the ſick: which is not uſual in a Criſis: and this is that which the Arabians call *Ebullitio ſecundum ſemitam putredinis*; which made *Fernelius* and others aſcribe thereunto a *venenate* quality. ‘‘ *Hoc & morborum fœditas teſtatur, tam deformis aliquando viſa, ut occæcutis* ‘ *oculis, univerſa cutis in ſquammas fœtidas & in cruſtas* ‘ *ingentes ſolveretur: corpus omne non aliter contabeſ-* ‘ *ceret & macie nigroreque torreretur, quam ſi menſes* ‘ *quatuor e furca pependiſſet.* Fernel. de abdit. rer. cauſis lib. 2. c. xii.

It is avowed that there is more than one ſort of *Feaver* which is antecedent to the eruption of the *Small Pox*: and *common Reaſon* will tell us, that in ſuch caſes the *Phyſician* muſt vary his Method: if the *Feaver* be a *Synochus ſimplex*, without any *putrefaction*, 'tis not to be doubted but that the *Small Pox* may be cured by the courſe preſcribed by Doctor *Whitaker*, and Doctor *Sydenham*: but what if it be a *Synochus* joyned with *putrefaction*, or *malignity*? Muſt *we* then abandon *Nature* to her ſelf, and ſtand Idle Spectators amidſt ſo *great* and *viſible* dangers? If the *Small Pox* be a *Criſis* of the *Feaver*, what influence hath *that conſideration* upon us, before the time of the Criſis? Are we not obliged to *facilitate* and *ſecure* the *Criſis* by convenient means before it approach? May it not otherwiſe happen that there will be too great a *redundancy of humours*, ſo that Nature will not be able to *guide* them orderly, and for the benefit of the *Patient*? Do not *we* ſee this frequently to happen, where no *irritation* hath been through *Sudorifics*, or other *Medicaments*? Doth not it often happen, that Nature not being able to command the *turgent humours*, they have ſo fixed themſelves in ſeveral *principal parts*, occaſioning *Swoonings* or *Syncopes*, *Dyſenteries*, as to deſtroy the Patient

Patient in the *beginning?* or ſo to imbecillitate *him*, that he hath afterwards languiſhed in a *Conſumption*, been deprived of his *eyes*, or *limbs*, and ſubjected to incurable *Ulcers?* It was obſerved in *Germany*, in 1644. that the *Small Pox* reduced ſome to an *Atrophy*, *Aſthma*, and *Conſumptive coughs:* ſome have had not only the *habit of their body* ſtrangely vitiated and altered; but even their *bones* corrupted and corroded into a *Rodorthrocace*, or *Spina ventoſitatis:* ſome have had the *Articulation* of their Joynts ſo depraved, that they have become *immoveable*, or *crooked*. Oftentimes we ſee that after the firſt *Feaver* is abated, and the *Small Pox* come out in *great plenty*, a *looſeneſs* follows, or a new *Feaver* prevents their maturation and *deſtroyes the Patient*.

Joh. Michael Febr. de Scorzonera. p. 81, 82, 83.

From theſe Conſiderations I dare confidently deduce this Concluſion, That it becomes a *Phyſician* in the *Small Pox*, to examine well in the beginning, the *conſtitution* of the Patients body, if it redound with *peccant Humours*, or *no:* it being eaſie to apprehend, that what is a *Cacochymy* before this Diſeaſe, will degenerate into a *virulency* and *malignity* in the courſe of the Diſeaſe: If it redound with *too much Blood*, as having more than is requiſite for the *commodious diſcharge of that Diſeaſe:* for if the body be *either way* Plethoric, there is apparent danger leaſt the Patient be *ſtrangled*, or that the *turgent Humours*, being either ſtreightned for want of room, or too *luxuriant* to be guided, will fall upon ſome *important part*, and ſo create *inſeparable evils* in the progreſs of the diſtemper. He ought alſo to inquire diligently into the *preceding ſeaſon of the year*; ſince that adds much to the *mildneſs* or *perilouſneſs* of diſtempers: As alſo into the *preſent ſickneſs*, whether it be in others attended with any thing of *unuſual malignity*, or *peſtilence*: for in ſuch a caſe, *he muſt increaſe his care, as dangers multiply*. He ought

Forreſt. obſ. lib. 6. obſ. 44.

ought alſo to weigh well the firſt *Symptomes*; whether they be ſo *violent* as that the *Patient* is not likely to have ſtrength to ſupport the *continuance of the Diſeaſe*: If the Feaver be *great*, and accompanied with *ſwoonings*; if the Patient being *thirſty*, *reſtleſs*, moleſted with a *vomiting*, *difficulty of breathing*, a *dangerous Cough*, *violent* and *ill-coloured Diarrhœa*, or *Dyſentery*, *bloody* or *black Urines*: It is not to be doubted in *theſe caſes*, but the *Phyſician* is to make ſuch proviſion, that ſo *ominous a beginning may conclude well*, if it be poſſible. And ſince ſo great a diſtemper requires *great* and *generous remedies*: two things will at firſt (if he come timely enough) fall under his debate; *viz.* *Phlebotomy*, and *Purging*. Hor. Augen. de febr. l. 2. c. 1.

Concerning Purging many are very *timorous*, becauſe that a *Looſeneſs is dangerous in the Small Pox*: as alſo becauſe that they fear leaſt it ſhould divert the *Humours* from their *natural tendency*, and draw them into the *Bowels*. But neither of theſe Reaſons are of any great validity. For neither is a *momentany Looſeneſs* (and 'tis *that* which is equipollent to a *Minorative purge*) dangerous in the firſt beginning of the *Small Pox*, before they *come forth*: Nor is there any danger that a *gentle Purge* ſhould create a *Flux*; but rather *prevent* any ſuch *ſubſequent evil*, by carrying off the *peccant Humours*, which by *continuing* in the *ſtomach* and *inteſtines* would contract a *malignity*. And indeed *this conſideration* is of ſuch importance, that it ought to ſway a *Phyſician* to give ſome Lenitive in the *beginning*, when he ſees occaſion. Neither will *he* thereby divert Nature from the *expulſion*, but rather facilitate it, and by diminiſhing part of the *redundant Humours*, enable her to overcome the reſt with more eaſe: whereupon *Augenius*, *Ranchinous*, *Franciſcus Rubeus*, *Riverius*, *Gregorious Horſtius*, and other *excellent Practitioners* do take *this courſe*. And *Ballonius* obſerves:

Bellon. Epid. l. 1. p. 37. vide Forreſt. obſ. l. 6. obſ. 49.

An commode præſcribi poſſunt medicamenta antiquam morbilli ſe produnt? An illa impediunt motum naturæ? Imo inopinato venam ſecuimus, & medicamentum purgans dedimus, quibus die ſequenti, aut poſtridie apparerent variolæ, & melius multo habuerunt, quam quibus non antſi fuerimus idem exhibere: ſic parum probabile, quod dicitur, minus aſſatim erumpere populas ſi corpus ante purgaveris.

As for *Phlebotomy*, were it not for *capricious humours*, or *indiſcreet fears* of ſome perſons, there could be no queſtion about the *legitimate uſe* thereof in *this* Diſeaſe. For there is not any *Indication* for *Blood-letting* which may not occurre in the Small Pox: And 'tis as *vain a ſurmiſe* to think that an *intelligent Practitioner* will do any thing *raſhly*; as 'tis an *irrational cauſe* (though too common) to *cenſure* Men for the *ill ſucceſs*, when they act according to the *beſt of their judgment*, and the moſt ſolid Rules of their Art.

The preſent Controverſie includes *two* Debates: The one *Concerning Phlebotomy in the beginning of the* Small Pox, *before their eruption*: The other *Concerning Phlebotomy after their eruption*. In *both* which *caſes* I do avow, that *Phlebotomy* may be oftentimes *prudently*, and ſometimes is *neceſſarily* adminiſtred. I uſe *this manner of ſpeech*, becauſe that *Phyſicians* do make a *twofold uſe of Blood-letting*: One, *when the* nature *of the Diſeaſe and its* greatneſs *do abſolutely* require *Phlebotomy, as the moſt proper Medicine, and without which* in all probability *the Patient will run an apparent hazard of his life*: A ſecond, *when it doth not ſeem ſo* abſolutely neceſſary *to Phlebotomiſe the Patient, but he may recover by other means,* without it: *yet becauſe* this is the moſt rational and ſafe way, *Phyſicians do inſiſt* thereon, *that ſo Nature being diſburthened*

Ferdinand. Mena comment. in lib. de ſang. emiſſ. c. 22.

thened and alleviated in part thereby, may with more ease overcome the rest. Thus in some Diseases *Galen* professeth he omitted to *bleed* some Patients, because they would not indure it: whereas had he esteemed it *extreamly necessary*, he would not have declined *that Remedy*, and used a *Purge* instead thereof: But he looked on it *then* only as a *most convenient* Remedy. From whence I deduce, that *whensoever any man reads any Author that doth not practise Phlebotomy in the Small Pox* (as *J. Michael Fehr*, and one *Langius*, now Professor of Physick at *Leipsich*, or *Angelus Sala*) *the* uselessness *or* danger *of the Remedy is not to be concluded thereupon*: since it is evident that *Physicians* are inforced often to comply with the *Humours* and *prejudicate Opinions* of their *Patients*, and the *Countries* where they live; and do not *alwayes* act according to their *best judgment*: Nor doth it follow, that because the *imprudence* of some hath been, or *is* successful; that therefore we ought to relinquish the *more wise* courses, or condemn as *needless* those cares which *Discretion* it self doth put us upon. Neither ought we to be swayed by the Negative testimonies of *Writers*, or *Practitioners*: For it doth not follow that *what one* (or more) *hath not tryed, or seen*, is impossible, or impracticable: The *happy Experience* of the Affirming party is the most convincing: as our common *Logick* informs us. They who condemn *Phlebotomy* in the *Small Pox*, either condemn it because *they* have *experienced its evil effects* therein; or because they have only a *sinister opinion* of it, and some *specious reasons* against it: If the *last*; they say nothing of moment: it being the dictate of *Hippocrates*, Ὀφθαλμοῖσι δὲ δεῖ πιστεύεσθαι μᾶλλον, ἢ γνώμῃσιν. And *Aristotle* long ago censured those who out of a *preconceived* opinion of the event of a thing did form their *judgment*; and imagine it *must* happen so, or so, because they think it will do so. If they have so often *tryed the evil suc-*

4. de saint. tuend.

De diæta, l. 1. c. 5.

Frederic. Bonaventura de partu octomestri. l. 5. c. 64.

ceſs thereof, 'tis neceſſary that they confeſs *they have killed a great many* thereby: or at leaſt that they profeſs they have ſeen the *ſad Experiments* thereof made *by others*: and to make this *any way* convincing, they muſt firſt aſſure us that ſuch Experimentators were *Artiſts*, and underſtood their *Faculty* ſo well as to weigh *all circumſtances* requiſite to the *due adminiſtring of Phlebotomy*; otherwiſe the *Actions of the moſt judicious* ſhall be condemned through the *ignorance* and *folly of others*: and it muſt be demonſtrated, that the *death* or other evils which befell the ſick, were the *direct conſequences* of the *Phlebotomy*; and not *by accident*, and from ſome *particular juncture*, or *miſcarriage*: leaſt we commit the Fallacy of *A dicto ſecundum quid, ad dictum ſimpliciter.*

Doctor *Whitaker* is pleaſed to call the practiſe of *Phlebotomy* in the *Small Pox*, the *Mode of* France; and
p. 17. makes as if that were the *principal Argument* produced *for it.* viz. '' *The greateſt Argument to confirm this* ' *practiſe, is,* the Mode of France: *by the ſame argu-* ' *ment they would prove ſtinking and putrid fleſh, both of* ' *fiſh and fowl to be moſt comfortable to the ſenſe, and* ' *corroborative to the Animal ſpirits: and if their Rhe-* ' *torick be no better than their Logick, to perſwade per-* ' *ſons of reaſon and ſenſe to accept their* Mode, *it is* ' *moſt probable it will prove the* Numiſmata *of Ga-* ' *len, which is a quære that will paſs no further than* ' *their own Countrey.*——He afterwards call it the
p. 28. raſh practiſe of Modiſh perſons: adding, '' *I* ' *call it a* raſh *and* inconſiderate practiſe in this Diſ- ' eaſe, *becauſe it is a doubt indetermined amongſt the* ' *moſt learned Profeſſors of* all Nations, *both* Greeks, ' Arabians *and* Latines, *and* all others *principled* ' *from them; being* all of them *unreſolved of Phlebo-* ' *tomy in the Small Pox,* upon any Indication *to be a* ' ſafe Remedy: *And if the diſeaſe be conjunct with*

' *an*

' an undeniable plethory of blood (which is the proper ' Indication of Phlebotomy) yet ſuch bleeding ought to ' be by Scarification and Cupping-glaſſes without the cut- ' ting any Major veſſel.——Aſſertions ſo *general* and *peremptory* as theſe are ought to be *very well grounded*, or elſe they ſubject the *Author* to the imputation of *Opiniatrity*, and *Ignorance*. I will not deny but *ſome* may have juſtified their *practiſe* by the *cuſtomary preſidents* of the *French* Phyſicians; who neither want *ſufficient knowledge* in their *Faculty*, nor *proſperous ſucceſs* to urge againſt all *Cavillers*: And this they *may* have done, not that ever they could judge it a Mode peculiar to the French, but becauſe that *Nation* is our next *Neighbour*, and ſo well known unto us, that theyneeded not extend their diſcourſe *further*: nor do there want *reaſons* to ſhew that *If it be requiſite for the* French, *and they can bear it*: It is more requiſite for us, and we can better tolerate it. For our *diet* is more *plentiful*, our *habit of body* more *firm*; our *innate heat*, by the coldneſs of our Climate, more *concentrated* and *vigorous*; our *redundance of bloud* is *greater*: and our *pores* more *denſe* and apt to be *obſtipated*, than *theirs*; and if we may aggravate the malady from the *diſmal effects* and impreſſions it produceth in the *faces* of the ſick, I think I may ſay it (I never was in *France*) that the *Small Pox* are *worſe* in *England* (which *indicates* greater Remedies, for the moſt part than in *France*, ſince the *diſaſters* which befall good faces are more *frequent* and *notorious here* than amongſt *them*.

But, I do affirm that *this practiſe* is not only the Mode of France, but of *Spain* and *Italy* as well as *Ægypt* and *Africk*; and that 'tis *authentick* in high and low *Germany*, and *Denmark*: And whereas *he* ſayes that *the uſefulneſs of this Remedy, is a* doubt *indetermined amongſt the moſt learned Profeſſors of* all Nations, *both Greeks, Arabians, and Latines, and* all

others

others *principled from them*. It is a groſs miſtake: and there is more of truth in that *oppoſite* ſaying of *Augenius*: "Omnes, *qui de variolis ſcripſerunt*, unanimi conſenſu, *principium curationis, illarum* "*fieri debere a vacuatione ſanguinis contendunt, ideoque* "*venam incidendam eſſe, aut ſcarificationes adminiſtrandas, aut hirudinibus applicitis ſanguinis vacuatione procurandam.*

Hor. Augen. de febr. l x. c. iv.

Concerning the *Greeks*, I have conſidered the paſſage in *Hippocrates* concerning the Son of *Tmionax*, and whatever elſe is alledged out of *him*, or *Aetius*, yet cannot be ſatisfied that ever *they* knew any thing of *this diſeaſe*. They that do believe it (as a ſtrong *imagination* may tranſport a man *far*) may reply, that ſince the *Malady* was rare *then*, and different much from ours 'tis not to be wondered that they ſpeak ſo little of the *Cure*; and never *determine a doubt which they never thought of*. As for the *Arabians* nothing is more *certain* than that they conſidered *the diſeaſe*, and all *circumſtances*, and did determine in the behalf of *Phlebotomy*; and whoſoever is *principled from them* (as all in a manner of the ſubſequent Phyſicians have been) muſt allow thereof. I do not remember to have read that any of *them* did ever prohibit Phlebotomy in *this caſe*, except it be *Avenzoar*, who is ſaid to have given the like directions that Doctor *Sydenham* doth, *viz.* To do nothing *in a manner*: but relinquiſh the work to Nature entirely. How *Avicenna* determines the doubt, his words will beſt ſhew. "*Oportet in* "*variolis ut incipiatur, & extrahatur ſanguis ſufficienter, cum conditiones fuerint. Et ſimiliter ſi morbillus* "*fuerit cum repletione ſanguinis. Et ſpatium illius* "*eſt uſque ad quartum. Sed quando egrediuntur variolæ,* "*non oportet tunc ut adminiſtretur phlebotomia, niſi inveniatur vehementia repletionis, & dominium materiei:* "*tunc enim phlebotometur quantitate quæ alleviet, ſeu* "*minoret.* Et convenientius quidem, quod in hac

Hippocr. Epid. l 7. p. 894. cum notis *Valleſii*.

Avicenna de febr. c. 10.

"admi-

c administratur ægritudine est phlebotomia. *Et si*
c *phlebotometur vena nasi, confert juvamentum fluxus*
c *sanguinis narium, & tuetur partes superiores a malitia*
c *variolarum. Et est magis facilis super infantes. Et*
c *quando necessaria est phlebotomia, & non phlebotomatur*
c iterum *complete, timetur super ipsum corruptio extre-*
c *mitatis.* Whence it is apparent, that amidst such circumstances as amongst Physicians usually seem to require *Phlebotomy*, he doth allow the practise thereof in the *Small Pox*, before they come out, be it on the *fourth day*, or *later* that they discover themselves. After they do appear, he alloweth not, except there be a manifest *plenitude*, and surcharge of morbific humours, then he alloweth only a *minute* letting of blood, and not what is *too copious*: and adds, that in *this disease* tis most convenient to let blood; and if the Patient be not blooded in a *Plethoric* constitution, and that by a *repeated phlebotomy*, according to the exigency of the case, that is, *compleatly*, there is danger least the party suffer the corruption or loss of some of his *limbs* by a *Gangrene*, or other evil accident: for when the redundance of the expelled matter is such, that it cannot duly *maturate* and *transpire* in the pustules, it frequently corrodes the *ligaments*, and *tendons*, and otherwise vitiates the remoter parts of the body; even Worms have been bred in a *pestilential* Small Pox, all under the pustules; as at *Stralesund*, in 1574. sometimes the matter not finding room to disburthen it self in the *circumference*, turns its course into the bowels, and begets mortal *Diarrhœas* and Dysenteries. Of the same opinion is *Rhases*, as appears by what is extant amongst the *Scriptores de febribus*: viz. " *Si antequam appa-*
c *rere incipiant, medicus ægrum inveniat, minuere eum*
c *faciat, aut cum ventosis sanguis extrahatur.* Minua-
c tur equidem sanguinis multitudo. It is true, that *there* he prohibites *Phlebotomy* after the Pox *come forth*: but I find him cited by others as concurring with

Joseph de Medicis apud *Greg. Horst.* t. 2. p. 46.

Fr. Joel. prax. l. 9. sect. 5. sect. 2.

Rhases (inter Scriptores de febribus) c. 18.

with *Avicenna* as to bleeding even at the *nose*; as extreamly beneficial; and to approve of *phlebotomy* after they come forth, in case the Patient find no *alleviation* thereupon, but there continue signs of a *plenitude*, or redundancy of ill-humours, a great Feaver and difficulty of breathing. But there is another piece entitled unto *Rhases*, wherein how indulgent he is to *Phlebotomy*, you may learn from *Augenius*. "Rhases *libro* 'suo de peste, *capite sexto*: *mittendum esse sanguinem* 'vult pro quantitate plenitudinis; si enim maxima fuerit, non veritur vacuare usque ad animi deliquium: si 'mediocris, mediocriter educit: si parva fuerit, paulum 'sanguinem educit: *verba ejus sic habent*. Tu venam incidito, & quam multum sanguinis effundito: scil. ad sanguinis defectionem usque. 'Supra vero syndromen attulit maximæ plenitudinis, & 'paucis interpositis inquit. Cum vero hæc signa admodum evidentia non erunt, veruntamen vehementia quidem, parum sanguinis fundito: 'Sin minime, minimum: *hæc ille*. How successful so *large bleeding* may be (though *Augenius*, and *Rauchinus* and others condemn it, we may judge by the practise of *Botallus*. To these I add the authority of *Serapion*, which runs thus. "*Si hæc febris fuerit* 'propter causam variolarum, & virtus & ætas consentit, 'tunc non aliquid magis juvativum quam phlebotomia venæ. *Et si aliquid prohibet phlebotomiam*, 'tunc oportet ut administrentur ventosæ. Out of which it is evident, that the generality of the *Arabians*, were of a *different sentiment* from what Doctor *Whitaker* ascribes unto *them*: and *Claudinus* is less mistaken when *he* (as do many others) avoweth, that The Arabians universally agree to let Blood in the Small Pox, upon occasion. Nor is there more of truth in that which follows in our *Doctor*, viz. that Their followers have not determined this doubt. For though *two* or *three* may seem refractory still in the

Rhases 18. Cont. 8. citante *Diomed. Amico* in tract. de variolis. c. x.

Horat. Augen. de febr. l. x. c. 3.

Botallus de venæ sectione, c. 5.

Serapion (inter script. de febr. c. 12.

I. C. *Claudinus* Empir. rational l. 5. sect. 1. c. 1. p. 286.

the World, yet it is not amongſt *Phyſicians*, but amongſt them that are not *Phyſicians* that the doubt is indetermined. I ſhall take ſome pains to *undeceive* this Age as to the *preſent point*.

Gordonius's words are theſe; "*Inprimis ſi corpus* "*eſt Plethoricum, aut ſi ſanguis dominatur, aut virtus eſt* "*fortis, fiat Phlebotomia de mediana, & poſtea de ſum-* "*mitate naſi*: i. e. In the firſt place, if the body be plethoric, or if the Diſeaſe be ſuch as is attended with abundance of blood, or if the Patient be ſtrong, let him bleed firſt in the middle vein, and afterwards at the Noſe. *Gordonius*; lilium Medicinæ. part. 1. c. 12. de variolis.

Petrus Bayrus having repeated the ſigns of the *Small Pox*, when they are violent, adds: "*His apparenti-* "*bus ſtatim fac Phlebotomiam copioſam, prius ſcilicet* "*quam variolæ ad extra appareant: licet poſſit fieri eti-* "*am ipſis incipientibus apparere, ſtante multa repletione;* "*non tamen tunc fiat ita copioſa, ſicut ipſis non apparen-* "*tibus: dicente Avicenna, in caſu*, Extrahatur ſan-"guis quantitate quæ exiret, hoc eſt minuet: *i. e.* when the *Small Pox* begin with ſuch a *vehemence of ſymptomes*, preſently take from the Patient a *large quantity* of Blood, before the *Small Pox* begin to come forth: yet may he alſo be *let blood* after they begin to appear, if there be a great repletion, but yet not in ſo *large a manner* as otherwiſe: for ſo *Avicenna* directs in the caſe: *and let the Patient bleed in ſuch a quantity* as may dry the *habit of his body*: that is, you may *leſſen the quantity* of the morbifick matter, ſo to bring them forth to a *kind maturation*, but not ſo as to *divert Nature* from her work. *Petrus Bayrus* de peſt. in capite de *variolis & morbillis*.

I ſhall not trouble my ſelf to repeat the words of others at large; but refer my Reader to the places cited. *Horatius Augenius*, one of our beſt Writers upon the *Small Pox*, (and who proteſts he writes nothing in order to *its Cure*, but what *ſix and forty years* *Hor. Augen. de febr. l. x. c. 9.*

Experience had convinced him of *to be good*) doth allow, in difficult cases, and when the Diſeaſe is ſomewhat *peſtilential*, that the Patient *bleed* firſt at the *Arm*, and then at the *Noſe*, by irritating it with *Tarrow*, or *Horſe tayl*.

With him agrees the *cautilous* and learned Practitioner *Juleus Cæſar Claudinus*: who doth debate, and *determine this doubt*: as alſo doth *Dilectus Luſitanus*, in his Treatiſe of *Venæ-ſectione*: and *Epiphanius Ferdinandus*, and *Æmilius Campolongus*. Neither is it to be queſtioned, but that *this* is the *common practiſe* of all *Italy*; ſo that I ſhall cite no more of that Nation.

In *Spain* 'tis approved of by *Chriſtophorus a Vega*, whoſe words are theſe. "*Si vero lactæ fuerint variolæ, & ab humore fiant craſſiore, ab initio ſanguinem mittere, ſi febris adfuerit; ſine ipſa vero minime.* And the beſt of Writers, *Ludovicus Mercatus* is thus peremptory in his Reſolution. "*De ſanguinis detractione nullus uſquam dubitavit, aut id ſine ratione fecit, niſi aut vires ſint adeo dejectæ, quod neque minimam, citra majus damnum ferre poſſint, aut affectus adeo levis, aut benignus exiſtat, quod ſatius ſit naturæ committere, quam ipſam infirmare ſanguine miſſo, vel ſanguinis copia adeo parva, quod exquiſitiori victus inſtitutione ſecurius rem poſſis agere quam aliis præſidiis, quæ licet aliquo modo poſſint convenire, non ſubinde ſunt ita ſecura & certa, quod eis prorſus fidendum ſit. i. e.* Concerning *Blood-letting* no man ever did *doubt* thereof, or if he did, he did it without *any reaſon*, except the Patient were ſo weak that he could not *endure it* without greater hazards, or that the *diſeaſe* were ſo mild and benign, that it ſeemed better to leave all to the ſtrength of Nature, without debilitating any way the ſick perſon, or the *redundance of blood* and *peccant humours* ſo inconſiderable, that the Cure might be wrought

d. ibid. c. 3.

I. C. Claudinus Empir. ration. l. 5. ſect. 1. c. 1.

Dilectus Luſitanus de venæ ſectione. c. xi. Artic. 1. p. 145.

Epiphanius Ferdinandus caſ. Medic. 78.

Æmil. Campol. de variolis, c. 413.

Chriſto. a Vega de arte med. l. 2. ſect. 7. c. 1.

Lud. Mercatus de puer. morb l. 2. c. 22

Vide etiam Ludo. Mercat. de febr. l. 7. c. 3 & de recto Medicinal. præſid. uſu. l. 1. c. 4. &

Anton. Ponce Sanctacruz. de impediment. magn. auxil. l. 3 c. 18.

wrought by a *diligent attendance* and *well-ordered* diet, without employing any of those Remedies which how *convenient* or *safe* soever, yet (according to that *fate* which disposeth of *all humane affairs*) may sometimes have an *evil issue*, and are not therefore *needlessly* to be *presumed upon*.

In *Portugal* I find *Rodericus a Fonseca* to approve of *Phlebotomy* in *this disease*: As also *Stephanus Rodericus Castrensis* avoweth its *utility* upon his own *Experience*. *Roderic. a Fonseca* in appen. ad Jacchin, de febr. c. 54. & Cons. Medic. l. 1. cons. 48. *Steph. Roderic. Castrens.* Quæ ex quibus l. 3. c. 16.

I might add *others*, but that this is the *general practise* of *Spain*, is so *indisputable*, that I should but abuse the *patience* of my *Reader*.

I now come to *Germany*, and *Denmark*, where the most *learned*, and the most *eminent* Physicians that we hear of, have admitted of this *Remedy*. The beneficialness thereof was *experimented* by that famed Practitioner, *Forrestus*. "Solet enim mirifice prodesse "in hoc affectu hoc auxilii genus, modo tamen "fiat in principio, antequam morbilli aut vari"olæ egrediantur. *i. e.* It is usually of *marvellous* benefit to the Patient, if he *bleed* before the *Small Pox* or *Measils* do come forth: Whereupon *he* did ordinarily begin his Cures *therewith*, and saith, that undeniably it ought to be so, if all *requisite circumstances* concurse. Felix Platerus (a man of *principal esteem* in *Switzerland*, and *Germany*) recommends it to our practise, "*Sanguinis detractio per venæ sectionem in* "*brachio facta ab initio, si Synochi hæ sunt febres, cu* "*juscunque generis, ad sanguinis accensi, vel simul putri*"*di, vel maligni etiam portionem educendam, causamque* "*sic minuendam, in adultis plurimum competet. Quæ* "*& infantibus majoribus, cum in minoribus natu non li*"*ceat, non inutiliter administraretur. Quæ tamen, si* "*jam maculæ & pustulæ eruperint, ne naturæ motus impe*"*diatur, omittenda erit.* i. e. Bleeding in the Arm, when *Forrestus* obs. lib. 6. obs. 47. in Scholio: & ibid. obs. 46, 49. *Felix Platerus* t. 2. de cur. variolar. inter opera, p. 200.

when it is practiſed in the *beginning*, if the *Feaver* be any kind of *Synochus*, ariſing from the inflammation of the maſs of blood, or its being putrefied, or vitiated by any *malignity*, will be of great benefit to thoſe that *are of Age*, to leſſen the morbific matter, and abate the violence of the cauſe of the diſtemper. It might alſo be done to *Children* of ſome bigneſs (not to *little ones*) may be profitably. But if the *Pox* be coming forth it is to be forborn, leaſt it cauſe them to *retire in*, Neither is it a common Elogy for this practiſe, that *Gregorius Horſtius* commends, and juſtifies *it*.

Greg. Horſtius oper. medic. t. 2. l. 6. in append. de variolâ; & ibid. de febr. l. 1. Quæ ult.

And his learned Son, *Jo. Daniel Horſtius* aſſerts the the judgment of his *Father*. As cautelous as *Sennertus* would ſeem, he only doubts concerning *Phlebotomy* in *Children*, not in others. "*Si tamen in ætate, quæ* "*venæ ſectionem perferre poſſit, ſanguinis abundantia ve-* "*næ ſectionem poſtulet, mox in principio ante quartum* "*diem, aut ſane prius quam variolæ erumpant; dum vires* "*adhuc conſtant, & ſanguinis tanta copia ad ambitum* "*corporis confluxit, vena aperienda, ut natura oneris parte* "*levata, quod reliquum eſt facilius vincere poſſit. Poſt* "*quartum autem diem, & ubi maculæ erumpere incipiunt,* "*abſtinendum a venæ ſectione; inprimis ſi jam æger* "*melius habere incipiat, ne materia ad ambitum corporis* "*tendens ad interiora revocetur.* i. e. But if the *Age* of the Patient be ſuch as to be able to endure *Phlebotomy*, and the *redundance of blood* be ſuch as to make *that Remedy* neceſſary, a Vein must be opened before the fourth day, and whileſt yet the *Small Pox* are not come forth, the ſtrength not being yet impaired, and the blood ſo *immoderately* diſcharging it ſelf upon the exteriour parts of the body: that hereby Nature being diſburthened of a part of what moleſted her, may the more eaſily concoct and ſubdue the reſt. But *after the fourth day*, and when *they* begin to come forth, *Phlebotomy* is not to be uſed, eſpecially if the Patient ſeem alleviated, leaſt *thereupon* the matter be drawn back

L. Dan. Horſtius epiſt. x. *Sennert.* de febr. l. 4, c. xii.

back which was haſtening unto and fixed in the habit of the body. To theſe may be added *Baldaſſer Timæus*, Phyſician to the Elector of *Brandenburgh*, who after *thirty ſix* years of practiſe approved *this courſe*: and *J. Petrus Lotichus*: as alſo the younger *Sebizius*, now Profeſſour at *Jena*; and *J. Chriſtianus Frommanus*, a Phyſician in *Saxony*: and *Franciſcus Joel*: In *Denmark* I find *Bartholinus* to be reſolute *for it*, before the *Small Pox* do come out: and if they do not come forth kindly, but that ſymptomes of an *evil preſage* multiply upon the Patient, he allows a *minute* bleeding then, and ſayes many have been *happily* recovered *by theſe means*. And ſo much for *Germany*.

Baldaſſar Timæus conſ. medicin. l. 8. c. 29. *I. Petr. Lotichius* lib. 1. obſ. medic. c. 7 obſ. 13. D. *Sebizius* diſp. de variolis ult. qu. 4. *I. Chriſt. Frammon.* diſcurſ. medic. ſect. 97 103. *Fr. Ioel* pract. l. 9. ſect. 5. § 2 *Th. Bartholin.* Ciſta Medica, p. 60. Alſo *Hoeſerus* Hercul. medic. l. 7. c. 6. and *S. Heſenreffer* de morb. cut. l. 2. c. 4.

In *England* the paucity of our Writers upon *this ſubject* gives me no opportunity to defend Doctor *Willis* by the citation of *any Book*: 'tis enough, that ſince the *original* and *firſt records* of the Diſeaſe no other *Method* than what he purſues, hath been commonly propoſed: that the *generality of the world*, the *wiſeſt of Phyſicians*, the moſt *able* and *judicious* of our Profeſſors principled by *Avicenna*) do approve thereof: 'tis not bare complyance with the Mode of France, but the Dictates of Reaſon, confirmed by a *proſperous ſucceſs* in ſeveral to *my knowledge*: I would fain ſee any man juſtifie the *Rhodomontade* of Doctor *Whitaker*, by producing ten *Phyſicians* that reject *Phlebotomy*: I remember none but *Fracaſtorius*, *Langius*, *Rolfinckius*, and *Denſingius*, and one or *two more*, and a company of *old Wives* and *Nurſes*. I never yet *Phlebotomiſed* any; yet 'twas becauſe I either had no *exigency* for it, or the Patients were too *timorous* to admit of it. But were *my own life* concerned, I would undergo it: and I hope the *Baconical* Philoſophers have not ſo *irrecoverably* infatuated *this Nation*, but that we may come to be

be undeceived in this point, as well as we have been *in others.*

Although it be not my intention to write an *intire Tract* about the *Small Pox*, yet that I may demonſtrate the *Rationableneſs* of their procedure who do *let blood* in the *Small Pox*, 'tis neceſſary that I acquaint my *Reader* with thoſe *caſes* wherein they do apprehend themſelves *obliged to act as they do.*

In the cure of the *Small Pox*, whenſoever a *Phyſician* employes his thoughts about *Phlebotomy*, he conſiders the *Feaver* which attends it; and the *dangers* into which the Patient is likely to fall: and the *ſtrength* he hath to bear them: not to mention thoſe *conſiderations* which ariſe from the *general ſeaſon* of the year, or the *particular malignity* of the Diſeaſe at *that time*, or the *idioſyncraſy* or peculiar temperament of the *ſick*, or what is *ſingular to ſome families.* In the *Small Pox* there happen frequently *three ſorts of Feavers*: one in the *beginning*, which uſually terminates on the *fourth day*, or when they *come forth*: Another which begins when the *Small Pox* begin to come to *ſuppurate*: according to that old ſaying, *Febris facit variolas, & variolæ febrem.* And a third, which either ariſeth afreſh upon *their coming forth*, or is the continuance of the *primary Feaver*, which if it abate not upon their eruption, creates *new cares* and troubles in the *Phyſician.*

As to the *Feaver* which is antecedent to the *Small Pox*: though *ſometimes* there be *none* at all: and *ſometimes* it be ſo *gentle* as not to create any *miſ-apprehenſions* in the *Doctor*, or *Sick*; yet frequently it happens to be joyned with *putridity*, or *malignity*, or to have ſomething of the *Peſt* it ſelf: From all *theſe circumſtances*

cumſtances the *cure* muſt be varied; nor is it any diſparagement for a *Phyſician* to act one thing at *one time* which he doth not *at another*; and to recede from *vulgar Methods* in *extraordinary caſes*. In ſome caſes he need not *phlebotomiſe*, if he ſee no *violent Feaver*, no pernicious or dangerous ſymptomes: if it be either a *Tertian*, or *double Tertian*, or *Synochos ſimplex*: the danger ſeems leſs: yet is it a *certain obſervation*, that oftentimes in the *Small Pox*, the moſt *hopeful beginnings* are defeated by *ſudden* and *ſubſequent* accidents: ſo that very many of thoſe whoſe recovery hath been undoubted at firſt, have in the progreſs and concluſion of the Diſeaſe died. "*Hoc primum ſciat & conſideret, "præ oculis ſemper habeat prudens & diligens Medicus, "nimium fidendum non eſſe plurimum in variolis & "morbillis, quantumvis ſalutaria ſigna primo acceſſu ap- "pareant: nam in receſſu & inclinatione facillime in "mortem commutantur: talis eſt horum morborum frau- "dulentia & conditio.* Beſides this, it often happens that a *ſalubrious* and ſimple *Synochus* turns to one that is *putrid*: and then the danger is, leaſt what is intended by Nature for a *depuration of the Blood*, become *corruptive*, and ends in the *death* of the *Patient*. Alſo it is frequently ſeen that the *exorbitant matter* is ſo *much*, or Nature ſo *weak* as not to diſcharge it into the *habit of the body*, or there is ſome *particular imbecillity* in the *principal* parts, that the Diſeaſe ſeizeth on the *Lungs* ſo violently as to exulcerate them in the progreſs of the Diſeaſe, or ſo debilitates them that the Patient languiſheth in a *Conſumption*; or elſe it ſettles in the *Glandules* of the *Throat*, and the Patient dyes of a kind of *Squinancy*, according to *Avicenna*. "*Nam qui ex "variolis moriuntur, inquit Avicenna, plerumque ex an- "gina ſuffocati pereunt, orta minium inflammatione in "gutture.* Sometimes the matter taketh a wrong courſe, ſo as that a *Flux* enſues, which ſometimes becometh *bloody*: and this befals the Patient either before

Lud. Mercatus de puer morbis, l. 2. c. 22.

Dion. Amicus tr. de variolis, c. 8.

fore they come out, or a little after they have appeared: or in the *declination:* in all which caſes, 'tis a *bad ſign*: but in the *laſt*, commonly **mortal.** " *Si debet* " *hujuſmodi res experientiæ judicio terminari, hæc fi-* " *dem faciet, fluore in declinatione adveniente, etiamſi* " *non ſit exulcerationis, majorem ægrotorum partem mori.*

Hor. Augen. de febr. l. x. c. 3.

Sometimes the matter is ſo *acrimonious*, that it *corrodes the bones*, as *Paræus* teſtifies upon *his knowledge.*

Ambr. Paræus Chirurg. l. 9. c. 1.

" *Quinetiam animadvertere licet in pleriſque hujus* " *morbi malignitate mortuis & diſſectis, eum in principi-* " *bus partibus invehi corruptionis impreſſionem, quæ hy-* " *dropis, phthiſeos, rauvicitatis, aſthmatis, dyſenteriæ* " *ulceratis inteſtinis, ac tandem mortis conſecutionem at-* " *tulerit: prout puſtulæ pari rabie debacchatæ ſunt, qua* " *per corporis ſuperficiem furere cernuntur: non enim* " *externas modo partes deturpant, puſtularum & ulcerum* " *altius ſeſe in carnem defigentium impreſſionibus & ci-* " *catricibus relictis, ſed & ſæpe movendi facultatem* " *adimunt, arroſis & labefactatis cubiti, carpi, genu & pe-* " *dum dearticulationibus. Quinetiam multi inde viden-* " *di ſenſum amiſerunt, ut nobilis Do. Guymeneus; alii* " *audiendi, alii olfaciendi, oborta hyperſarcoſi in meatu* " *tum narium, tum aurium.* There being ſo *great danger* in this *Malady*, I wonder that Doctor *Whitaker* ſhould ever look upon it as contemptible: ſaying, " *This diſeaſe of the* **Small Pox** *was anciently and* " *generally in the common place of* **Petit** *and* **Puerile** *diſeaſes; and the Cure of* **no moment.** It is true that *Phyſicians* do uſually reckon it amongſt the *Diſeaſes incident to Children:* and they do believe that *Children* paſs it over with *leſs danger* than more *adult perſons*: becauſe in *them* the *Humors* are not ſo *accrimonious* as in others: their *habit of body* is more *lax*, and gives the humors a *freer courſe* through the fleſh, their ſkin is more *perſpirable*, and their *innate heat* more *vigourous* than in others: It is alſo true, that *they* do hold that *ſometimes* the *Small Pox* are ſo mild, that there

there is *little* or *nothing* to be done by the *Physician*: But 'tis no less true, that from the dayes of *Avicenna* and *Rhases* unto ours, none ever *thought* or *writ*, that the *Cure* was absolutely of *no moment*. For *Avicenna* in his Treatise of the *Small Pox* represents unto us a great deal of *danger* in the Disease; and though he grant it is sometimes *facile*; yet he cautions the Reader sufficiently how *malignant*, *perillous* and *mortal* it is at other times. *Horatius Augenius* and others aver, that this *Ebullition* is sometimes such as tends to the *depuration* and *perfecting of the blood*; and sometimes to its *depravation* and *putrefaction*: And as they compare the *one* to the *ebullition* of *Must*, by which it is improved unto *good Wine*, so they compare the *other* to those *effervescencies* in *Wine* when it *frets*, and degenerates. Neither is Doctor *Sydenham* less mistaken, when he forbids the *Physician* to make use of any *generous Medicaments*, but to leave the *whole work to Nature*, and to proceed according to that *Regimen* which he suggests; he representing the *disease* as *facile* in it self, and only *mortal* or *dangerous* by the *errors* of the *Nurse*, or *Physician*: Whereas it is evident that the Small Pox are at some times accompanied with *greater danger* and *worse Feavers* than at other times: and all that difference which is to be seen in the *Pox*, that they are *green*, or *livid*; *flat*, or *high*; *horny*, or more *soft*; *few*, or *so numerous* as to over-run the whole *entrails*, as well as *skin*, and there to *run one* into another, and *flux*; this doth not arise alwayes from the *miscarriage of the Attendants*, but from the *malignity* and *quantity* of the *morbifick matter*; as *observation* and *common reason* will inform any man.

Avicenna de febr. c. 6.

Hor. Augenius de febr. l. 9. c. 4, 6.

Let us therefore judge better of those *sage Practitioners*, who proposed unto themselves *sundry scopes* in the cure of *this disease*: and thought it their prudence to prevent all the *dangers* imminent or *present*, by a cure like unto *this*.

First, They examine the *habit* of the Patients *body*, if it abound with *blood*, or *evil humours*: the *redundancy* of the former they conceive may be such, that upon a *violent ebullition* Nature may not be able to rule *it*, but either *some vessels* may *break*, or the Patient be *strangled* by a decumbiture of the *blood* upon the *Lungs*, or *Brain*, or a *bloody flux* ensue, if it take its course *that way*; or a *bloody urine*, if it incline to the *Kidneys*. The *renundancy of evil humors* they do apprehend to carry this hazard in *it*, that it may pervert the whole *mass of blood* upon the febrile effervescence, and add such a *malignity* to the *morbifick* matter in its *expulsion*, that the evacuation thereof by *pustules* may not put a *period unto that Feaver*, but *continue* or *exasperate it*, to the *mortal danger* of the Patient: such *evils* they think may *easily* be prevented by a *due method* in the *beginning*; but in the *progress* of the Disease, they are either *remediless*, or not to be cured but with *much difficulty*. Therefore their first intention is to lessen that plenitude of Blood, and other Humors, which they find in the Patient.

Secondly, They examine the Nature of the *distemper*, what the *Feaver* is, whether a simple Synochus, or one that is putrid; a *causos*, or *continued tertian*: They consider the *violent symptomes* what *faculties* they effect, or what *parts*: and according as they see occasion they apply themselves to *correct* its malignity, or to *moderate* its *fervour*; without indeavouring to extinguish the *Feaver*.

Fuerint ulcera maligna in faucibus, in aspera arteria, in æsophago, in intestinis sæpe innumero, quæ hominem non multo negotio de medio tollunt. Hor. Augen. de febr. l. x. c. 2.

Thirdly, They consider the danger that the *Eyes*, *Throat*, *Lungs*, *Stomach*, *and Intestines* are in, should the *Small Pox* affect *them*: they know that if *they* be driven forth into the *habit of the body*, and those other parts kept *inviolate*, there is *little of danger*

danger: but on the contrary, if the *humors* discharge themselves on them, now all other fears vanished, yet upon the *suppuration* (which brings a *new Feaver*) horrible symptomes must ensue in the *Stomach*, *Bowels* and *Lungs*. And therefore they think it ought to be their care to *mitifie the humors*, and *fortifie those parts*.

Fourthly, They consider the *manner* of their *eruption*; and if they *come out kindly*, they intermeddle not: If they either come out *slowly*, and in the mean time create *Epileptick* and *convulsive fits*, or other *dangerous symptomes*, they promote their *coming out:* and according as they perceive by their *colour*, and other signs, that they are *malignant*, they apply themselves to amend those defaults: If they find Nature to exorbitate in their *expulsion*, and that they come out so *thick* that there is not *sufficient room* for them, but that they run one into another: If the *Feaver* continue, or *increase*, because that destroyes the *due suppuration* of the *pustules*, they apply themselves to *moderate the excessiveness of that evacuation*, and to *correct that Feaver*, which is not to be terminated by any *new excretion of that kind*, but to be cured in a manner as other *putrid Feavers* are: and in this case all *judicious men* must allow no greater regard to the *Small Pox*, than a *symptomatical evacuation* deserves.

Fifthly, They imploy their care in *securing* such parts as are particularly indangered by *their eruption*; expedite the *maturation of them*, if it be to *slow*, and *difficult*; hinder their *regress*, and suffer not any *recrementitious particles* again to *reincorporate* with the blood, and *beget a new Feaver*, or other *dangerous symptome*: and in case any *new distemper* happen (as sometimes a *Pleurisie*, or the like may do) they provide for the *due cure* thereof.

Theſe are the *common intendments* of all rational *Phyſicians*: theſe things Doctor *Willis* (whoſe ſhort diſcourſe of *this diſeaſe* contains in a manner all that our beſt Writers do ſuggeſt) doth propoſe to himſelf: and whoſoever doth ponder well the *courſe of the diſeaſe* muſt aſſent thereunto. Let the *Motion* be *critical*; all intelligent men know, that before the *Criſis*, if we perceive any threatning danger, that Nature cannot command the *exorbitating humors*, but that the *preſent ſymptomes* are perillous, and the *future iſſue* uncertain: If the *Criſis* be *immoderate*, and not agreeable to our deſires; If it bring no *alleviation* to the Patient, our hands are not bound up, nor are we prohibited to intermeddle even by *generous Remedies*. As little are we confined by the *Hypotheſis* of Doctor *Sydenham*: for, *if Nature be inclined to change the ſtate of the blood*, yet are we obliged to aſſiſt her, if ſhe be too *weak*, and *deficient*, or *exorbitant*: and our *providence* hath the ſame liberty to exert it ſelf, that any *other principles* indulge it in.

I come now to *thoſe Means* by which *Phyſicians* principally are ſaid to act: and thoſe are the great Remedies, of *vomiting*, *gentle purges*, and *bleeding*; and to declare the uſefulneſs thereof; 'tis neceſſary that we conſider the *Small Pox* under a *twofold* notion. As the Feaver precedes; and as thoſe Puſtules do *accompany* it: I think thoſe *Phyſicians* to have written moſt diſcreetly, who divide Feavers into *two ſorts*: viz, Febres ſolitariæ, and Febres comitatæ: theſe laſt they diſtinguiſh from *ſymptomatical Feavers*, in that *thoſe* do *ſucceed* others and depend upon them as *their Cauſes*: but theſe others do *precede* ſome other diſtemper, or *ariſe* with it, and are either a *cauſe* or *occaſion* thereof: and upon the appearance of their *companion-diſeaſe* they ceaſe or abate: ſuch are *Squinancies*,

cies, *Peripneumonies*, *Pleuriſies*, the *Small Pox*, &c. "*Comitatæ febres continuæ ſunt, quæ aliquem morbum, qui ipſas vel exitavit, vel qui ab illis prodiit, comitem habent, aliaque præter ea quæ febris ſolitaria affert ſymptomata, a morbo comite prodeuntia, & cum febrium accidentibus complicata, febriumque naturam aliquando permutantia.* In this *diſtinction* we are freed from thoſe *impertinencies* which others moleſt us with, as if the *concomitant diſeaſe* were a *criſis* of the other: whereas indeed this *concomitancy* makes us look on them rather as a *complication of maladies*, than any ſuch *ſucceſſion* as is feigned; and we are thence obliged to conſider what *indications* ariſe from this *conjunction*: for it is confeſſed that in *theſe caſes* the *primary diſeaſe* is not *terminated*, nor *altogether* to be *cured* in the usual manner, but with a regard to its associate: but our care ought to ſpend it ſelf ſo as that the primary Feaver may *innocently* and without prejudice to the *ſick* introduce its associate, and that *conclude* with an happy recovery. To do this we conſider the nature of the *primary Feaver*: which is in the Small Pox a *ſimple Synochus*, or a *Synochus putride*; and ſometimes a *Tertian*, or *double Tertian*, or ſome *malignant Feaver*. Theſe we are ſo to manage that they neither become *exorbitant*, ſo as to deſtroy the Patient before the *Aſſociate* diſcovers it ſelf, nor *then* become ſo *depraved*, *violent*, or *malignant*, as to diſturb the *ſubſequent cure*: No man can *in reaſon* doubt but the beſt and moſt direct means to moderate the *primary Feaver* is to begin betimes; for then the diſtemper is leſs *violent*, and Nature leaſt debilitated: What we are to do *then* the *courſe* of the Diſeaſe beſt teacheth us; in which the moſt *enormous vomitings* are ſo far from *doing hurt*, that they are *beneficial* to the ſick: It is therefore manifeſt that a *Phyſician*, who is to *imitate Nature*, may in the *beginning* (as he ſees occaſion,

F. Platerus prax. t. 2. p. 13 de febr. generibus.

Hippocr. l. 2. Aphor. 29.

caſion, and upon due pondering of all circumſtances) adminiſter a *vomit*: for, it is neither repugnant but *congruous to any of thoſe primary Feavers*; nor *contra-indicated* by the *Aſſociate*: For hereby thoſe *excrementitious* humours are evacuated, which would otherwiſe in the progreſs of the diſeaſe add to the diſtemper, producing *Phrenſies*, *Sopors*, or other *malignant ſymptomes*; alſo part of the ſuper-abundant *turgent matter* is exhauſted, and the *Lungs* (who are frequently endangered by a *Catarrh* in the beginning) are diſburthened: as alſo the *eruption* of the *Small Pox* is facilitated: Vomits being alwayes held by the *Methodiſts* amongſt thoſe Medicaments which principally *relax* the habit of the body. In caſe that there appear urgent Reaſons againſt a *Vomit*: the next thing under conſideration, is a *Minorative purge*, whereby the *Stomach* and *Inteſtines* being cleanſed, and part of the Morbifick matter diſcharged from the *Head*, *Lungs*, and *maſs of Blood*, Nature will be better able to overcome and regulate what remains. And herein the *Phyſician* is guided by Nature, which oftentimes alleviates the Patient by a ſlight *Diarrhœa* before the *Small Pox* do come forth: Nor is there any danger in *ſuch fluxes*, as our Practitioners obſerve: *Si Diarrhœa fuerit in principio non nocebit.* And moſt of them allow a *gentle befitting purge* in the beginning of this Diſeaſe, not doubting thereby but to make the ſubſequent courſe of it to be more *benign*, and *ſafe*; for the moſt turgent urgent bilious and accrimonious humors being carried off together with the *promiſcuous fæculencies* of the Inteſtines; 'tis not eaſie to be imagined that any *dangerous malignity* can reſide in the *puſtules*, or any *dyſentery* or flux enſue in the *ſtate* or *declination* of the Diſeaſe; at what time it is *extreamly perillous*. I ſhall not inlarge upon *this ſubject* further (it not being my preſent intention) but refer my

T. Bartholinus de augin. Epidem. exercit. 4. p. 56.

Epiphan. Ferdinandus cap. medic. 78.

my Reader, for his more *particular instruction*, to *Horatius Augenius*, *Ranchinus*, *Gregorius Horstius*, *Sennertus* and *Riverius*: and if he desire *Experiments* for the happy use of *Vomits*, and *Purges*, and evidence that *they* do not retract the humors from the *circumference* to the *center* (Alas! 'tis not the time of their *separation* or *motion that way*!) or impede their *eruption*, let him consult *Angelus Sala*, and *Forrestus*.

Angel. Sala ternar. Bezoart. c. viii. *Forrestus* lib. 6 obs. 49. cum Scholio.

I come now to the practise of *Phlebotomy*, about which sundry Questions arise: As, *Whether it may be administred in the beginng of the Disease?* and *After the Pox come forth? In the State?* and *Declination?* In all which *times* I do assert that there may happen such circumstances as may make it *necessary*: But in the *beginning* I think it may frequently be done with *great convenience*.

1. In the beginning of this Disease: that which *urgeth* is the *Feaver* and its *symptomes*, which if it be so violent that the Patient may be *indangered* before the *Small Pox* do come forth, or so *debilitated* that Nature may not be able to command *them* and concoct them by reason of their *multitude* or *virulency* (which the *extremity* of the *Feaver*, as well as *habitual cacochymy*, or the *adventitious malignity* may create) 'tis prudence in the beginning to prevent those perils, which in a short space will become remediless. If the body be *Plethorical* with either sort of *plenitude*, 'tis indubitably requisite to *bleed*: and our case *here* is like to those cases which possess the *Brewers*, or *Vintners*, who whilest they attend diligently to the *depuration* and *fermentation* of their liquors: employ a part of their thoughts upon the *preservation* of the *Cask*, least it break.

Greg. Horstius de variolis & morb.

Nor is the *present plenitude* only to be considered, but the *future*, which will happen upon the increase of the

the *ebullition* and *attenuation of the blood*, together with the *defective tranſpiration*, which alwayes abates proportionably to the greatneſs of the *Feaver*: and in caſe any *peril* threaten from the *violence of the Feaver*, there doth not appear any more ready courſe (in ſuch as are ὁμότονοι, or in the beginning are at their height, perhaps there is no other) then to *let blood*; whereby the *redundancy* is diminiſhed, the courſe of the *blood* diverted from *circulating* or *ſtagnating in the inward veſſels*, the *habit* and *texture* of the body changed in order to the more *facile expulſion* of the *Small Pox*, and tranſpiration promoted, then which nothing contributes more to the *alleviation* of the *firſt*, and *precaution* of any ſubſequent *Feaver*, and *malignant putrefaction* of the Humors in the *Puſtules*. "*Quoties cunque enim corpus ventilatur & nullo modo tranſpiratio prohibetur, facile putridæ fuligines per poros exhalantur, nec cordi communicantur, neque proin ſequitur ulla febris: unica enim cauſa legitima & immediata febris eſt*, prohibita tranſpiratio; *uti etiam illis qui a limine ſalutarunt Medicinam, notum eſt.* i. e. Whenſoever the *blood* is well ventilated, and *inſenſible tranſpiration* free, whatever *noxious* and *venenate* vapours are contained in the body, which might otherwiſe fly up to the *head*, and cauſe *incurable Phrenſies*, *deadly Sopors*, and *Epileptick fits*; or create *Lipothymies* in the *Heart*, or *difficulty of breathing* (which is a *mortal ſign* in this Diſeaſe) in the *Lungs*, or a *Diarrhæa* and *Dyſentery* in the *Inteſtines*, or a *virulency in the ſuppurating Puſtules*, and corrode even the *bones* and *ligamenis*; theſe vapours exhale by the opened dores, and the *Feaver* abates: for any one that knows never ſo little in *Phyſick*, underſtands that the ſole legitimate and immediate cauſe of Feavers is prohibited tranſpiration: From what hath been ſaid it is evident, that *of all Remedies* Phlebotomy *is the moſt important in the Small Pox*, in the firſt beginning

Ioſeph de Medicis apud Gr. Horſt. t. 5. p. 50.

ning, whether the *Feaver* be a *ſimple Synochus*, or one that is *putrid* and *malignant*: and 'tis more a wonder that *any man ſhould oppoſe the due adminiſtration of it*, then that *all Europe in a manner ſhould agree to the practiſe thereof.*

Neither is it only to be adminiſtred to *allay the plenitude* (which generall occurs in *this Malady*) or to *prevent the evils forementioned*; but frequently for revulſion, when the *malignant* matter *begins* to affect the *Brain*, *Stomach*, *Lungs*, *Inteſtines*: For if during the *Feaver* the Humors ſeiſe upon thoſe parts with any violence, the Patient is in *apparent danger of death*, there being no way to prevent the *ſuppuration* there; and little hopes that the Patient will ſurvive *the diſtemper*, or (if he do) eſcape a *Conſumption* or *Dropſie* afterwards. "*Sunt aliæ ita malignæ, ut non* "*ſolum carnoſum genus adoriantur, ſed oſſa quoque dila-* "*nient, & corrumpant, & quandoque interna membra* "*principalia, ut hydropem generent, & nuper obſervavi-* "*mus puellulum quendam D. Donati Profili nepotem mor-* "*tuum ex hydrope ob variolas, & morbillos: quandoque* "*vidimus alios conſumptos ex aſthmate, ob eaſdem vario-* "*las: quandoque vidimus alios diarrhæa & dyſenteria* "*confectos ex morbillis & variolis, & alios gangrenatos* "*& eſthiomenatos.* It is true that *Phyſicians* do not alwayes regard the *diſtempers of the brain in this diſeaſe*, becauſe albeit they may be very *violent* in the beginning, yet they afterwards ceaſe of *themſelves*: nor do they appear ſo highly concerned for the *animal*, as *vital* functions: and in ſuch caſes *great judgment* is required in a *Practitioner* rightly to diſtinguiſh betwixt *what may affright others*, and *what ought to terrifie him*: But in caſe the firſt approach be accompanied with a *violent Cough*, *hoarſeneſs*, *difficulty of breathing*, the beginnings of *Squinancy* from a *puſtulary defluxion into the Glandules of the Throat*, or with *ſwoonings*, and *perfrigerations of the hand. and feet*; He that thinks

Epiphan. Ferdinand. caſ. 4 medic. 78.

Si eſt bona vox, & bona reſpiratio, ſpes eſt in tuto. ex Avicenna. *Epiph. Ferdinand.* caſ. medic. 78.

Phlebotomy ought not to be adminiſtred (if other conditions permit) underſtands not himſelf, or complies too much with the *prejudicate* opinions of the *Patient* and *Relations*. The *Authority of all Phyſicians* almoſt juſtifies him: the *Rules of Art* direct him to it: the *proſperous ſucceſs* which frequently follows thereon imbolden him to it: and *Nature* her ſelf authenticates the *practiſe* by her *ſovereign example*: for it is uſual for *Patients* in the beginning of the *Small Pox* to bleed at the noſe: I have known *five* or *ſix* in one family (adult perſons) that bled of themſelves *eighteen* or *twenty ounces*, with greater benefit: whileſt *I durſt not be allowed to take away eight.* "*Novimus* Epiphan. Ferdinand. caſ. medic. 78. "*plures infantes in principio quibus ſanguis in copia exc naribus exivit, & bene habuerunt, neque tot tantiſque c variolis & morbillis fuerunt afflicti unde multi autumarunt, ſi puero multa ſanguinis copia ſponte vel arte exiceret, uſque ad animi deliquium, quod vel non variolabitur, vel non in tanta copia: nam variolæ & morbilli c vere ſunt morbi a ſanguine.* With this Author agrees the moſt experient *Augenius*, "*Saluberrimum* Hor. Augenius de febr. l. x. c. 3. "*eſſe provocare ſanguinem exnaribus docuit experientia: c nam quibus ſponte effluxit, variolæ pauciores & ſalu- c briores evenerunt. Vidi hactenus pueros duos, qui ex c fluore ſanguinis e nare dextra tertio die immunes a fe- c bre evaſerunt, & quarto die ſupervenerunt variolæ c paucæ & benigniſſimæ.* I add the words of *Diomedes Amicus*, who having recommended the applying of *Leeches*, *Yarrow*, or *Horſe-tail* to the Noſe, thereby to cauſe a flux of blood, prooceeds: "*Hæc enim ſan-* Diom. Amicus de variolis, c x. "*guinis evacuatio a naribus, vel ſponte, vel arte facta c adeo confert, maxime cum adſint ſigna fluxum ſangui- c nis portendentia, (cum tamen non fluat) ut ſolo fluxu c iſto ægrotantes iſtos ſanatos vidiſſe* Rhaſes *dicat*; & Rhaſes 18. cont. 8. "*eum ſolum præſervare a nocumento oculos & alias fa- c ciei partes dixerit* Avicenna: *quæ ſanguinis evacuatio c ex naribus ſemper medicum excuſat ab omni alia eva-*

cuatione:

cuatione: ſicuti facit etiam qui per uterum, vel hæmorrhoidas fit, modo fiat cum alleviatione. The conſideration of this ſo beneficial an *effort* of Nature made *Augenius* and others to direct that after *Phlebotomy* in the Arm; the Patient ſhould be forced to bleed at the *right Noſtril* (in relation to the *Liver*) or at *both*: and in the cure of *Antonio Borgheſe*, a Nephew of Pope *Paulus* V. a Colledge of Phyſicians at *Rome* did preſcribe *Leeches* to be applyed to his *Noſtrils*, and his recovery was *principally* aſcribed thereunto.

Philander Colutius in dedic. *Marſil. Cagnati* ſuper aph. 22. ſect. 1.

I ſhall not undertake to preſcribe *how much blood may be taken away at once:* nor *how often Phlebotomy is to be repeated in the beginning of the diſeaſe:* I ſhould *expatiate* too much by ſuch a diſcourſe; the *general Rules* are to be found in *Augenius*, *Mercatus*, *Horſtius*, *Ranchinus*, *Epiphanius Ferdinandus*, &c. and the accommodation thereof to *particular caſes* doth depend wholly upon the *judgment* of the *Phyſician* employed; How *Children* (in whom the Diſeaſe, if they can be ordered) is leſs dangerous commonly: and how *Men* according to their *different habits of body*, and other circumſtances (it being more *perillous* in them, their *fleſh* being more *ſolid* and *tenacious*, their bodies leſs *perſpirable*, and their *blood* and *humors* more *acrimonious*) are to be ordered: When the *Lancet*, when *Leeches*, when *Cupping glaſſes* and *Scarifications* are to be made uſe of; the *wiſe* do know, and the *ignorant* may learn, if they will ſtudy to improve by *ſtudy* that time which they miſ-ſpend in *cenſuring the prudent actions of their betters.*

Before I proceed to the ſecond Queſtion, it will be convenient to decide that Controverſie about *Phlebotomy*, Whether it draw from the Circumference to the Center, and may hinder the eruption, or cauſe the Puſtules to return in, or ſubſide?

ſubüde? That there are ſome eminent *Phyſicians* who do hold, that *Phlebotomy doth draw the Humors from the Circumference to the Center*, I do grant: and in the caſe of the *Small Pox*, that it may chance to do ſo, is the *ſuſpicion* and *fear* of *Avicenna* and *Hollerius*, as well as Doctor *Whitaker*. But why the Doctor ſhould be ſcrupulous here, who hath ſo great a regard for the *Ancients*, (though he cite no *good Authors*) is to me a *Miracle*: For beſides the *Methodiſts*, who are more ancient than his *Citations*; the repute of *Galen* and *Aetius* (whom *Septalius* entitles to the Opinion) ought not to have been *ſupinely* contemned: and the *Authority of many of the Moderns* (which a man that cites *Fernelius* ought not to ſlight) doth prove unto us that *Phlebotomy* doth promote *tranſpiration*, eject the peccant humors to the Circumference, and not *revel* them back: and this is the Opinion of the learned *Septalius*, *Gregorius Horſtius*, *Joſeph de Medicis*, *Collado*, *Botallus*, and ſeveral others. I have ſaid enough to decide *this point* in the preceding diſcourſe about the *natue* and *effects* of *Phlebotomy*: Yet ſince it ſeems in this place peculiarly neceſſary to be again ſpoken unto, I thus argue thereunto. *If it be true that* Blood-letting *doth draw the humors from the Circumference to the Center; how is it that* Hippocrates, Galen *and all the Dogmatiſts do preſcribe* Phlebotomy *in Pleuriſies, and Inflammations of the Liver, and Lungs? Is this the effect of that* Revulſion, *that the Humors ſhould flow more inward? and from the ſurface to the center? Is it upon* this ſentiment *that Phyſicians reiterate their Phlebotomies? or practiſe them at all in the Itch, Leproſie, or Eryſipelas? Doth not* Hippocrates *caution us againſt the returning in of an Eryſipelas? Yet is there no man that can rationally condemn bleeding in* that Diſeaſe? *How often do we read the happy effects of this uſage in* peſtilential Diſeaſes *after the eruption of the* Spots (which *Septalius* tried upon himſelf; and

Lud. Septal. de peſt. l. 5: c. 17.
Greg. Horſtius Inſtit. Medic. diſp. 18. coron. de venæ ſect. qu. 7.
Joſeph de Medicis apud Gr. Horſt. t. 2. p. 52. 53.
Collado obſ. in *Hollerii* meth. c. 93.
Botallus de venæ ſect. c. 5. ſect. 6.
Hippocr. ſect. 6 aphor. 25.
Septal. de peſt. l. 5. c. 17.

and *Minadous* upon an infinity of Patients) and of the *Parotides* (of which *Riverius* boasteth) *of the Carbuncles and Botches* (the successfulness whereof converted the other Physicians to adhere unto *Septalius*, in opposition to the timorous *Francastorius*) *and even of the* Small Pox, *in which Avicenna alloweth* of it *before their eruption, and sometimes after it? Consider the Authors, and the Cases related concerning the prosperous issue of Phlebotomy in the* Small Pox, *and how speedily they have come forth thereupon; and see if it be possible to frame a ground for such sentiments, as Doctor* Whitaker *suggests: I will not here repeat the multitude of cases recorded by the* French, Italian *and* Spanish *Physicians; nor alledge the cases out of Forrestus: but content my self with the single instance of* Heurnius. "*Quin si dyspnœa adfuerit cum exanthematibus, interdum ad Phlebotomiam venimus. Ita nobilissimæ comitissæ hymondanæ Franciscæ, Admiralii filiæ, venam pertundi jussi, cum exanthemata non satis prodirent, idque felici successu. Can we imagine that if the* proper effect *of Phlebotomy to* draw in the humours, *that it should so* frequently, *nay* universally, produce so different an operation? *Or, is it not more rational to think that the* proper effect *thereof is to* draw from the Center; *and that whensoever it happens otherwise, 'tis* by accident *only? Doth not* Collado *argue judiciously against the* generality *of that Assertion?* viz. All Phlebotomy draweth from the Circumference to the Center; *when he reasons thus?*

Io. Baptist. *Minadous* de abusu non mittendi sang. c. 14. *Riverius* prax. medic. l. 17. c. 1.

Heurnius in lib. 2. aphor. 15.

Collado obs. in *Holler.* method. c. 93.

Whatsoever doth draw back the humours from the Circumference towards the Center, is noxious in the Small Pox.

But some Phlebotomies are not hurtful in the Small Pox.

There-

Therefore ſome Phlebotomies do not retract the Humors from the Surface to the Center of the Body.

Which Concluſion is contradictory to the univerſality of the Propoſition aforeſaid.

I hope I need not inculcate to thoſe of the contrary tenet that old Rule in Logick:

Syllogizari non eſt ex particulari.

Pag. 140. edit. 2. As for Doctor *Sydenham*, he grants that 'tis moſt falſe for any to ſay that *Phlebotomy* (and other evacuations) *hinders the eruption of the Small Pox, by introducing a contrary motion to what Nature intends* by the Circumference: *Since that 'tis commonly ſeen to happen quite otherwiſe*, they ſuddenly coming out thereupon; and therefore he ſuggeſts other Reaſons, but of little validity. Ibid. p. 141. ᶜ *Per haſce evacuationes non tantum ebullitio nimis imminuitur, cujus interim ope partes deſpumandæ accurate ſecerni debuerunt: verum etiam illud ipſum ſubducitur, quod cæptæ ſecretioni quaſi pabulum continenter ſuppeditaret; unde ſæpenumero contingit, ut variolæ primum laudabili impetu erumpentes (eoque fortaſſe melius, quod evacuationes jam dictæ præceſſerant) paulo poſt ex improviſo quaſi repercuſſæ detumeſcunt, idque ob eam potiſſimum cauſam, quod materia deſit, quæ quaſi a tergo præeuntem inſequeretur, atque agmen clauderet.* These are his moſt *important* and *perſwaſive Reaſons*! ſo conformable to his Obſervations, that he makes *them* the *Baſis* in a manner of his practiſe! ſo powerful, that all that the *Phyſicians* have *obſerved, ſaid*, and *writ* for above ſeven hundred years is not worth a *ſtraw* in compariſon thereof! Such is the *Treatiſe* of his, *Quæ etiamſi neque mole ampla, neque ſpoliis Authorum* (quorum cineres per me molliter cubent) *ſit ſufferta, tamen non erit, uti ſpero, eo nomine tibi minus grata, quippe* Ep. dedic. ad cl. R. B.

qui

qui inter magna *quid interſit &* tumida *non ignoras!* I have wondered often that *his Books* ſhould meet with any applauds: and with what confidence he could obtrude upon the World ſo *irrational* and *abſurd* a piece; except it were to ſhew how *judicious in framing of Hypotheſis*, and *exact in their obſervations* theſe Baconical Philoſophers are. But, not to diſturb the repoſe of Fr. Bacon, or Bungey (*quorum cineres per me molliter cubent*) all that *he* proceeds *on* in *that Book* about *Feavers*, amounts to this, that *Nature affects a new ſtate and diſpoſition of the Blood; and ſo produceth a Feaver.* ‘‘ *Febrilem ſanguinis commotio-* ‘*nem ſæpe* (*ne dicam ſæpius*) *non alio colliceare, quam* ‘*ut ipſe ſeſe in novum quendam ſtatum, & diatheſin immutet.* Well, *for diſcourſe ſake*, I will now allow him this: but I muſt remind him that *he* ſaith the *ſame* of the Small Pox: How then comes it to paſs that the *Indications* are not the *ſame*, where the *ſuppoſition* is the ſame, and the procedure of Nature the ſame, by *Ebullition* and *Deſpumation*? Before, he expreſſed himſelf thus; ‘‘ *Ita mecum reputo, Indicatio-* ‘*nes veras, & geminas quæ in hoc morbo conſurgunt, in* ‘*eo verſari, ut ſanguinis commotio intra modum naturæ* ‘*propoſito congruentem ſiſtatur; ea nimium ratione, ut* ‘*nec hinc plus æquo gliſcat, unde periculoſa ſymptomata* ‘*inſequi ſolent, nec illinc nimium torpeat, quo pacto vel* ‘*materæ morbificæ protruſio impediretur, vel ſanguinis* ‘*novum ſtatum effectantis labefactarentur conatus.* We were *then* allowed to intermeddle, as we ſaw occaſion, and to aſſiſt Nature by *Vomits*, *Purges*, and *repeated Phlebotomies*, in caſe the *Ebullition* were ſo *violent*, as that it was *incongruous for the affecting that change in the maſs of blood*; or on the contrary ſo *defective, as not to be able to bring it about*: But *now*, when the *ſame things* fall under our debate; the *ſame Ebullition*, attended with no leſs *violence* and *danger* (rather much more) and the *like deſpumation* is to be effected, how come

I would not be underſtood to ſay the Doctor is a Conjurer.

De feb. continuis. p. 5.

pag. 6.

come the *Indications* to vary, and that our hands are tyed up from preſcribing *thoſe Remedies*, which a *parity of Reaſon* doth ligitimate? If it were not *neceſſary*, we were *then* obliged by our Obſervator not to *buſie our ſelves*: but amidſt the *aforeſaid circumſtances* we might interpoſe our aid: and *why not now*? No Reply can be made but this *extravigant* and *intolerable* Aſſertion; that, *In the Small Pox there never can happen any immoderate, or defective Ebullition naturally; but it muſt ariſe from the errour of the Phyſician, Patient, or Attendants.* And all the proof of *this* that I can find amounts to no more, than that *ſome*, or *many have been recovered by doing nothing in the Small Pox; when* Salubrious that oftentimes *upon Phlebotomy, and other evacuations practiſed in the beginning of the Small Pox*, though they have come forth well (nay the *better* for the uſe thereof) *yet in the progreſs of the diſeaſe, they have ſubſided, and returned in:* thoſe antecedent Remedies having either rendered the *Ebullition* too *minute* to finiſh the *deſpumation*, or having carried off part of that matter which ſhould have brought up the *rear*, whereby the *forlorn-hope*, or *vant-guard are diſappointed behind.* Moſt excellent! But may not I ſay on the other ſide, that ſince we oftentimes ſee that the *Small Pox* are preceded by a *malignant, peſtilential*, or *putrid Feaver* (no *defaults* in any perſon being to be alledged in the caſe) and that *many* (ſometimes *moſt*) do *not recover:* that in *thoſe difficulties* we are exempted from his *general Rule*, and cannot without *betraying our Patients* and our *own repute*, omit *thoſe Remedies*, and moderate the *Ebullition*, or *correct it?* Is it not ſo apparent that none, but *ſuch as prejudice hath rendered blind, and deaf*, can deny it, that *Nature frequently produceth an effuſion of blood at the Noſe*

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(or *menſtrous*) *in this diſeaſe, to the benefit, at leaſt not to the detriment of the infirm?* Is it not moſt notorious in *England*, that *oftentimes people are vomited, purged, and blooded, in the beginning*, they not ſuſpecting the malady, and yet none of theſe inconveniencies do enſue? Cannot the *avowed practiſe* of *Italy*, *France*, *Spain*, *Africk*, *Egypt*, *High* and *Low Germany*, and of many in *our Nation*, convince a man that *theſe ill conſequences do neither* generally *nor* neceſſarily *follow upon the* due adminiſtration of Phlebotomy? So that neither is the *Ebullition* rendered too *minute* (which may ſometimes be almoſt *inſenſible*) nor doth the *Van run away for want of a Rear-guard*. If it be ſo, as 'tis *undeniable*, and our Book-caſes make it good, I conceive the *Doctors* Reaſons to be *as weak as any were ever alledged*, and that whatſoever is the cauſe of thoſe *ſubſequent evils*, the *artificial uſe of Phlebotomy* cannot be the *proper cauſe* thereof: ſince nothing is more true, than that old Axiome, *Idem, quatenus idem, ſemper facit idem.* But here *thoſe effects* are frequently viſible, where *Phlebotomy* is not uſed; and do not enſue, as frequently, where it is *judiciouſly* uſed: therefore *thoſe effects* are not to be aſcribed *ſimply* to the bleeding of the Patient. 'Tis an *imbecillity of ratiocination* to erect *univerſal theorems* upon a Sæpenumero, or what oftentimes happeneth; eſpecially if that oftentimes be counterpoiſed by *almoſt as many*, or *more* Experiments of a *contrary event*. Beſides, who in *Phyſick* ever found out ſuch a Rule, as *Urgency*, or a *Cura coacta* did not abſolve the *Practitioner* from its obligation at *ſome times?* And that is the *preſent caſe*. We do

Nuper, cum 1665 variolis decumberent filii filiæque, uni præ cæteris ſanguine florido rubenti, libenter nonnihil ſanguinis ſubtraxiſſem prius quam eruptio fieret: ſed incerti eventus metu retractus optimum conſilium intermiſi, quod proficuum videbam: In mittendo enim ſanguine non tam annos Medicus numerat, quam vires ægrotantis æſtimat, *Celſo* præeunte. Negligentiam tamen meam vel metum ſupplevit Natura optato ſucceſſu & felici variolarum eruptione. Quippe quotquot ex meis decubuerunt, pleriſque delirantibus, eruptionem variolarum, hæmorrhagia narium præceſſit, qua ſublevata Natura promptius expulit variolas numero plures, ſed nulla alia malignitate infeſtas. *Bartholin.* medic. *Dan.* diſſert. 9. p. 428, 429.

Vide *Voller.* meth. med. l. 4. c. 2.

Sed maxime notandum eſt, exire aliquando variolas, aut morbillos, ita placide cum febre, vel ſine febre, ut error ſit venam ſecare. Commoda regio eſt, nullum accidens urget, neque ex pulſu, aut alio ſigno cognoſci poteſt latitans malum. Quorſum ſine ulla indicatione audet Medicus turbare criſin? *Auton. Ponce Santacruz.* de imped. magn. auxil. l. 3. c. 19.

univerſally grant, and *Spain* it ſelf will joyn with Doctor *Sydenham*, that *in the Small Pox, when either there is no Feaver, or a mild and ſalubrious one, and that Nature without any dangerous ſymptomes doth expeditely and congruouſly carry on the work*; we ought not, or need not to Phlebotomiſe: But we do ſay, *ſome exigencies may happen* (without any intervening errour) *in which that practiſe is legitimate, becauſe* then *neceſſary*. I know not how diligent our *Obſervatour* was, when he took notice of ſuch as *miſcarried upon Phlebotomy*: were the *Phyſicians* befitting *Artiſts*? did the *Patient*, and all *Attendants* faithfully diſcharge *their duty*? was there no *Malignity* ſuperiour oftentimes to *all Medicines*; no *individual circumſtances*, ſuch as commonly fruſtrate a *Cure* under the moſt *judicious Methods*? I muſt be informed of *this*, before I can determine, as *our Author* intends. Oh! what a miſery is *much ſtudy*! and how many *ſcruples* is this Doctor *Sydenham* freed from, by ſuffering our beſt *Writers* to remain untouched, unconſulted!

But I need ſay no more: and therefore proceed to the ſecond Queſtion.

The ſecond Queſtion is; Whether in the AUGMENT or increaſe of the Small Pox, it be lawful to let the Patient bleed? For the better underſtanding hereof, I think it requiſite I explain what I mean by the Beginning, Augment, State, and Declination *of the* Small Pox. I intend by the Beginning all that *time* which intervenes from the firſt *illneſs*, *decumbiture*, or *Feaver*, until the *Small Pox* do begin to appear: this ſpace is *uncertain*; for commonly it exceeds not *three*, *or four dayes*: though I have known it to be much longer before they have appeared.

appeared. And *Zacutus Luſitanus* ſhall confirm it to any one that doubts the truth of my Obſervations. *Zacut. Luſitan.* Medic. princip. hiſt. l. 2. qu. 2.

" *Variolæ in die ſeptimo, octavo, undecimo, & duodecimo; &, quod plus eſt, vigeſimo ſæpe apparere ſolent, quando natura præ humorum onere preſſa cauſam morbificum citius expellere non potuit.* *Diomedes Amicus* ſaith he had a Souldier at *Millaine* under cure, who having had *ſeven fits* of an exquiſite *Tertian*, in the end of the laſt *paroxyſme*, the *Small Pox* came forth, and he remained perfectly freed from any *Feaver*, till their *ſuppuration* occaſioned one, which ended in an happy recovery. 'Tis true the *Feaver* preceding the *Small Pox* may have its *diſtinct times* (which fall alſo under the conſideration of a *Phyſician*) and ſometimes the *Small Pox* are ſo *gentle*, that this *diſtinction* cannot take place: But 'tis not to my preſent purpoſe to entreat hereof: I have ſufficiently proved that *Phlebotomy* may be adminiſtred in the beginning: and the number of thoſe that deny *that*, is very inconſiderable: but in the Augment many are more timorous. By the Augment I mean all *the time from their firſt ſenſible appearance until they ſwell up, imbody, and exchange their red colour for one more white*: during which time commonly the Feaver ceaſeth, or giveth little of trouble to the Patient: and this extends uſually to the *ſeventh*, *ninth*, and ſometimes the *eleventh* day: ſometimes it happens that the *Pox* ariſe *one under another*, and then the Augment of the former becomes *coincident* with the ſtate of the latter. *Diomedes Amicus* de variolis, c. 6. *Horat. Augen.* de febr. l. 9. c. 18.

It is not here to be debated, whether we may *let blood* in the *Augment* when it is *gentle*, and our *prognoſtics* happy: but in *difficult caſes*: as if the *Feaver* be ſo far from any *alleviation* upon their *appearance*, that it increaſeth, and the ſymptomes become more terrible: If the *difficulty of breathing* become *greater*, or continue *violent*: If the *throat become very ſore*, and

be accompanied with a *difficulty of ſwallowing*: If the firſt *deliriums* perſiſt, and there be danger of a *Frenzy*, or *Convulſions*: If the *Cough be vehement*: If *ſwoonings* or *vomitings begin*, or *continue*: If a *looſeneſs*, or *bloody flux*, or *bloody urine* enſue: If they *come out interruptedly*, and *diſappear after they have come forth*: If they *come forth of a dangerous colour*, or *be very hard and horny* (as they call it) or *interſperſed with purple ſpots*: If they *come out in ſuch multitudes, that Nature ſeems oppreſſed, and incapable of disburthening her ſelf*, or *ruling them in order to due maturation*: If *apparent danger threaten the Eyes*: In theſe (and other caſes that are perilous) it is controverted, **Whether we may let blood?** And I am for the *Affirmative*; ſuppoſing that either *Phlebotomy* hath not been adminiſtred; or ſo *diminutely*, that there is ſtill occaſion for it. *Multa in præcipiti periculo recte fiunt, alias omittenda*: I have already alledged the Authority of *Avicenna* and *Rhaſes*, and *Bayrus*, and the practiſe of *Heurnius* upon the Counteſs of *Egmond*: I add here, that 'tis approved of by *Valleſius*, *Mercatus*, *Paſchalius*, *Fonſeca*, and the Phyſicians of *Spain*: by *Horatius Hugenius*, *Cæſar Claudinus*, *Epiphanus Ferdinandus*, *Dilectus Luſitanus*, and the vulgar practiſe of *Italy*: By *Joſeph de Medicis*, *Hoeferus*, *Bartholinus*, and many other Phyſicians in high and low *Germany*: and the happy practiſe thereof frequently in this Nation, hath given *ſome credit* thereunto. I mention not the *French* Phyſicians, becauſe their Authority is excepted againſt in *this diſeaſe*: though no Nation (excepting *Spain*) hath ever produced better *Practitioners*, or more *judicious* men than *they* are. It being manifeſt then that the number of *Phyſicians* which approve the *due adminiſtration of Phlebotomy* in the **augment** of the Diſeaſe, and *after that they begin to appear*, is ſuch as may juſtifie any prudent Man in the doing thereof; Let us now examine with what ſucceſs **it hath been done.**

Celſ. Medic. l. 3. c. 18.
Volleſius in *Hippocr.* ſect. 2. aph 3.
Ludovic. Mercat. de morb. pueror. l. 2. c. 22.
M. I. *Paſchal.* meth. med. l. 2. c. x.
H. Augen. de febr. l. x. c. 3.
I. C. Claudin. Empir. rational l. 5. ſect. 1. c. 1. p. 286.
Epiphan. Ferdinand. hiſt. 78.
Dilect. Luſitan. de venæ ſect. c. xi. Art. 1 p. 145.
Joſeph de Medicis apud *Greg. Horſt.* t. 2 *Hoeferus* l. 7. p. 366.
Bartholin. ciſt. medic. p. 101.

The

The Counteſs of *Egmonds* caſe I have already recited: *Bartholinus* avows the beneficialneſs thereof.

" " *Sunt tamen qui erumpentibus variolis venam ſecent,* Th. Bartholin. ciſt. med. pag. 601.
" *quando febris intenditur, anxietas, ſpirandi difficul-*
" *tas, angina, pleuritis, lotium craſſum, & rubrum, alia-*
" *que ſymptomata apparent, ut detracta humorum portio-*
" *ne, reliqua facilius ſuperentur. Certe ſi imperfecte*
" *prodeant exanthemata, naturæ laboranti ſuccurrendum,*
" *partim parca venæ apertione, ſi copia ſanguinis oneret,*
" qnod multorum felix eventus comprobavit, *partim*
" *ſudoriferis, quæ, ubi malignitatis ſuſpicio, tutius ad*
" *extrema corporis clinimant ichores.* And *Dilectus Luſitanus* profeſſeth the neglect of it to be an errour:

" " *Qua in parte aliquorum Italorum Doctorum error &* Dilect. Luſitan. de venæ ſectione cap xi Art. 1. p. 146.
" *timor calumniandus venit, qui dum apparere vident va-*
" *riolus inviolabile ſervant præceptum nullo modo ſan-*
" *guinem evacuare; & in præſenti caſu exceptio facien-*
" *da erit, cum multa experientia viderimus in his quibus*
" *talis evacuatio fuit repugnata, & ante ſuppurationem*
" *pueros ſuffocari, & in multa illarum quantitate etiam*
" *ſuppurata. Non enim poteſt natura tanta regere &*
" *vincere ulcuſcula, & ideo ſuffocatur, indeque multoties*
" *pulmonia & alia ſuperveniunt accidentia.* 'Tis needleſs to recite other caſes: I proceed to the Reaſons of the *practiſe*; which though they are eaſily deduced out of the foregoing Treatiſe, *concerning the general effects and utility of Phlebotomy*, yet may it not ſeem amiſs to debate the controverſie *particularly* in this place.

It is an *Aphoriſme* of *Hippocrates*, that in the beginning of Diſeaſes a Phyſician is to adminiſter his principal Remedies: but in the ſtate to ſuperſede: *Cum morbi incipiunt, ſiquid videbitur movendum, move: cum vero vigent, quietem agere melius eſt.* And the reaſon of that *injunction* is, becauſe that in the *beginning* Nature is rather *oppreſſed* by the *turgent* and *crude humours*, Hippocr. ſect. 2. aph. 29.

mours, then as yet *debilitated*; the temperament of the body is not much vitiated, nor the mass of blood much *depraved*; nor the Disease highly *prevalent*. It being most certain, *Circa initia & fines omnia sunt leviſſima: circa vigores autem vehementiſſima.* In which *Aphoriſmes* the word beginning is so used as to include the Augment of the Disease: for he passeth *immediately* from the Beginning to the State of Diseases. *Id nunc manifeste ex verbis Hippocratis conſtat, qui* principio *nominato ad* ſtatum *tranſilivit, tanquam* Augmentum *ſub* principio *continuerit. Clarius id cogneſces, quia morbum in tria duntaxat tempora partitur.* And from hence we learn, that the most *seasonable* time for *Phlebotomy* is within the time of the *Beginning* of the Small Pox, yet so as it includes the Augment; and may *then* judiciously be practised, in case it have been *omitted* before, or that new emergencies *urge* us thereunto: for if we delay *then* to use it, 'twill be too *late* to administer it, when *Nature is more ſpent*, the *Blood and Humors more corrupted* and perhaps *degenerated into a malignity*; the *disease* with all its *ſymptomes* more *violent*. If then *after the eruption of the Puſtules* the Feaver *continue*, or *increaſe*, with evil symptomes; 'tis most evident that we ought to proceed to *Phlebotomy*, not only to diminish the present *plenitude of blood*, and *surcharge of peccant humors*, to allay the vehemence of the present Feaver (by ventilating the blood) open obstructions, relax the texture of the body; but also to prevent *future evils*, which will *after* prove *remedileſs*. For in case the *Feaver* continually increase, 'tis indisputable that no *proper maturation* of the Pox can ensue: the *violence* thereof interturbing *that work*, and depraving the *expulſed humors* so as to destroy the *habit of the body*, instead of *ſuppurating* in the skin: and their eruption is in this case perfectly *ſymptomatical*, because they bring no *alleviation* with them, but add to the danger

Id. ibid. aphor. 30.

Hier. Thriver. in Hipp. l. 2. aphor. 29.

danger ſo much as their *maturation* interferes with the proper cure of the *putrid* or *malignant* Feaver: If ever it be true that the *expulſion of the Small Pox* is a *Critical motion*, 'tis manifeſt that now they are to be looked on as *judicatoria non judicantia*, as efforts of Nature *intending*, but *not being able* to effect her eaſement; and conſequently they portend either a *tedious and perillous ſickneſs*, or *death*. *Omnes excretiones male ſunt, quæ non ſedant dolorem——& quæ non judicant, difficile judicium reddunt, atque quæ lædunt in acutis morbis exitium prænunciant.* And were there any danger of *retracting* the expulſed matter, as there is not (becauſe neither doth *Phlebotomy* draw from the *Circumference* to the *Center*: nor is it an eaſie thing to draw back *extravaſated matter*) yet would not the regard thereunto deterre us from this practiſe; becauſe in reference to the *maturation of the Puſtules*, the Feaver *here* aſſumes the nature of a *Cauſa prohibens*, or an *obſtacle* and *impediment* thereunto, which muſt firſt be removed. The caſe is hazardous; but 'tis now we muſt act with that *prudence* which obligeth us to attend unto what is moſt urgent; though we neglect not other conſiderations: Nor can any man *in his wits* doubt but that we ought to recurre unto *Phlebotomy* (even more than once) *Cupping-glaſſes*, and *Scarifications*, except by declining an uncertain peril we will ſubject the Patient to one that is certain. Other remedy there is none: and what imports it, if the attempt be hazardous, ſince the omiſſion is likely to be *more fatal*? we know not, nay ſcarce fear that we ſhall indammage the ſick by the *remedy*; we are aſſured to do it, if we *forbear*: ſeeing that each moment adds to his jeopardy, and ſo far incapacitates us to ſerve him, as it accelerates the *ſtate of the Diſeaſe*; in which when the diſtemper is moſt *violent*, we are *generally* obliged to ſuperſede: or if we were not, yet would our care ſpend it ſelf to no purpoſe; for in ſuch

Proſper Alpin. de præſag. vita & morte, l. 1. c. ult.

such *Small Pox* there is not any *declination*, nor doth the Patient ſurvive the *State* thereof. ‘‘ *Status autem* [variolarum lethalium] *cum omnia in deterio-*
Hor. Augen. de febr. l. 9. c. 18. ‘ *rem labuntur diſpoſitionem: exulcerantur ſubdita* ‘ *partes, pus educitur maxime fœtidum, nigricans, vi-* ‘ *ride; ſubjectum corpus plurimum contraxit ingredinis,* ‘ *ita ut totum videatur igne uſtulatum, virtus imbecilla,* ‘ *febris interdum magna: atque tunc ægrotus moritur.*

Neither is this the only caſe in which a Phyſician ought to practiſe Phlebotomy; but it *may* be done lately and *warrantably*, if that the *Small Pox* do not come out kindly; but *appear, and then retire in again*, or come out ſo *ſlowly*, or *evil coloured*, as that the Patient *may* be in danger to periſh during the *progreſs* of the *malady*. For in the firſt caſe, is a certain ſign that *Nature is not able to govern thoſe humors in the firſt eruption*, either becauſe of their *malignity*, or *ſurcharge*: and if it be not to be done by *her*, when the Diſeaſe is not arrived to its *height*, nor ſhe as yet much debilitated: how can we imagine, but ſhe muſt fail in the *vigour of it?* It is therefore requiſite that a Phyſician (duly conſidering all circumſtances) do proceed to ſecure the infirm by a *minute*, and perhaps *iterated blood-letting*. For it is not *here* as in other *putrid* or *malignant Feavers*, in which we have a greater latitude of practiſe; and what Nature cannot effect by one way of *termination*, may be accompliſhed by *another*. The *concomitant Pox* alter the courſe of the *Feaver*, and ſuffer it to admit of no other iſſue, but by a *due maturation of the Puſtules*: ſince therefore that *Phlebotomy* promotes the *eruption*, and by altering the *texture* of the whole body and faciſitating *tranſpiration* doth diminiſh the *morbifick matter*, hinder *putrefaction*, extinguiſh the *Feaver*, and ſo alleviate Nature; that ſhe is enabled to proſecute happily her work; I ſee no reaſon, but that it *ought to be adminiſtred*: and the ſame conſiderations do ſway me

me to approve of *it* in the *latter* caſe: for if the *Pox* appear malignant in their *firſt coming forth*, their *continuance* will prove *fatal*, if this Remedy be not applyed: for we have none ſo *effectual*. No *Minoratives* can be uſed to diſburthen part of the humour; no *powerful Cordials*: for thoſe, however they ſeem to yield a *preſent benefit*, do in the iſſue *debilitate Nature*, *diſſipate the ſpirits*, *retard the maturation*, and oftentimes increaſe the Feaver, and occaſion a *Phrenitis*, or other deadly *ſymptomes*. *Veſicatories* are attended with no leſs jeopardy, not only for that *they* frequently cauſe *bloody Urines*, and *exulcerate the Bladder*, and procure a vexatious *tenaſmus*, (which I have ſeen to fall out, when they were applyed in *other diſtempers*) but becauſe the *ill-conditioned* matter being attracted to them, may cauſe a *Gangrene*, or otherwiſe endanger the Patient: upon which account, I do not remember any that ever propoſed *them* in this Diſeaſe. 'Tis true, I knew a *Perſon of Honour*, who in *France* was *four times blooded* pretty largely before their eruption, and then had *Pigeons* applyed to his *face* and other places (becauſe they came not forth well) and ſo was recovered: 'Tis true that *Proſper Alpinus* doth commend *Inunctions with Nitre and Oyl of bitter Almonds* to be uſed once or twice in a day: but beſides what *Melichius* records, the practiſe being novel in *England*, and ſeldome uſed in *Europe*, I believe no diſcreet man will adventure *his credit*, or the *life of the ſick* thereupon; but rather acquieſce in the *received*, *warrantable*, *happy* practiſe of the generality of Phyſicians.

Proſper Alpin. de med. meth. l. 5. c. 9. p. 173. de medic. Ægypt. l. 4. c. 15. *Melichius* Armament. medic. diſt. 9 in Scholio ſuper *Pilulis de nitro.*

In caſe that there be a great redundancy of the *maſs of blood* in the aforeſaid caſes, ſo that Nature ſeems *oppreſſed*, and to be ſo *ſtreightned*, as not to be able to free her ſelf from the corrupted humours, who can doubt but the *Phyſician* hath more reaſon than

otherwiſe to *phlebotomiſe* the ſick in *this time* of the Diſeaſe? It is a *Rule* in *Phyſick*, That *we ought to attend principally in diſeaſes to that which is moſt urgent; yet ſo as not to neglect thoſe other conſiderations which ariſe from the nature of the Diſeaſe.* In this laſt caſe the regard unto *plenitude* is moſt urgent. For if there be ſo great a *Plethora*, as that there is danger leaſt the Patient be ſuffocated, and the natural heat extinguiſhed, which is the ſuppoſition of *Avicenna*, when he ſayes, *Timetur ſuper eum corruptio extremitatis.* And if *Phlebotomy* either hath been omitted, or not adminiſtred as 'twas requiſite, who can imagine that Nature will be able to govern and regulate ſo great a *ſurcharge* to the benefit and recovery of the Patient, but that when the humours ſeparate and *extravaſate*, ſome part will mortifie and *ſphacelate*, or the party be *ſuffocated?* It is really to be ſuppoſed that the ſick perſon will dye within a ſhort time, except Nature alleviate it ſelf by a large efflux of blood at the Noſe. It is *here* as it is in a *Synochus putrida*, (for commonly 'tis a *Synochus putrida* which accompanies the *Small Pox*) in which if either by reaſon of the reluctancy of the Patient, or ignorance of the Phyſician, *blood-letting* be omitted, the caſe becomes exceeding perillous, except Nature be very ſtrong, or a great flux of blood, or plentiful ſweat ſucceed: as *Galen* relates in the *ninth Book, and fourth Chapter.* 'Tis meer folly here to object, that albeit that *Phlebotomy* be omitted, yet ought we to *preſume well of the Patient*, becauſe the *Small Pox* do come forth: as when *ſweat* appears in a *Synochus:* for there is a great diſparity in the caſes: The *ſweat* is diſcharged out of the ſkin: the *Small Pox* are lodged in the ſurface of the body, and muſt there be *maturated*; beſides that the *Small Pox* infeſt alſo all the *inward parts*; ſo that the danger is greater *here*, than upon the eruption of *ſweat*: Moreover the *ſweat* conſiſts of a more *ſubtile* and *Ichorous* ſubſtance, and

and finds a more facile and certain exiture; but the *Small Pox* are of a *groſſer ſubſtance*, and come not forth with *equal facility*. It is alſo to be conſidered, that as a large evacuation by *ſweat* may happily terminate a *Synochus*; ſo, although the Patient do abound with blood, Nature may ſometimes ſo expel and regulate the matter, that the party may avoid the imminent perils: but he that truſts thereunto muſt well ponder not only how *plentifully* the Pox come forth, but whether it be *proportionate* to the exigencies of Nature (for whatever is not *ſuch*, is *minute*) and what *alleviation* inſues: not to mention other things. And as when *ſweat* doth not appear in *due time*, *due quantity*, with *due qualifications*, the Patient doth nevertheleſs *dye*: So we daily obſerve it to fall out *in the coming forth of the Small Pox*. And therefore I do aſſent unto the directions of *Avicenna*, and *Augenius*, that in caſe of *this urgency*, Phlebotomy be judiciouſly made uſe of: and whatſoever danger may *ſeem* to be in it, 'tis prudence to ſubmit thereunto rather than to incurre *greater*.

Hitherto I have treated of *Phlebotomy* as 'tis an *evacuative* and *relaxing Remedy*; but there is oftentimes occaſion for it by way of *Revulſion*, when not only the *Eyes* are in great hazard to be ſpoiled, or the blood ſtagnates about the *Heart*, *Lungs*, and *Thorax*: or that the *Small Pox* very much affect the *Stomach*, and *Entrails*, or occaſion a *Diarrhœa*, or *Dyſentery*: For in theſe caſes, 'tis moſt probable that the Patient either will not live to the *ſtate of the diſeaſe*, or dye *then*. 'Tis a received tradition from *Avicenna* downwards, that in caſe the Patient in the *Small Pox* do *breath freely*, and ſuffer no defect in his *voice*, there is little, or no danger; unleſs ſome accident introduce a *Dyſentery*: Becauſe that is a ſign that the *Throat* and parts relating unto *reſpiration* are ſecure. But in caſe it appear

Diomedes Amicus de variolis, c. 8.

that the inward parts are infested by the *Pox*, and that *swoonings*, *vomitings*, *difficulty of breathing*, a *sore throat*, and *great hoarseness* trouble the Patient, 'tis most manifest that he ought to be blooded for revulsion; least in the *state* of the Disease, the Pustules coming to maturation, may by their *purulent stench* annoy, or by their *growth* and *inflammation* suffocate Nature, or exulcerate and apostemate the Lungs. It is usually seen that people dye of the *Small Pox* in the *State* of the Disease (on the *sixteenth*, *seventeenth*, nay *twentieth day*) though they have seemed *plentifully* and *kindly* to come out: and the reason is (I abstract from *all errors*) because a due regard hath not been had to those that infested the *inward parts*: for they have exulcerated the *Intestines* and created Fluxes, they have occasioned in their *maturation* a new and perillous *Feaver*, a *Squinancy*, a *Pleurisie*, and particularly by affecting the membranes of the *Stomach*, they have created *Vomitings* and *Lipothymies*, &c. And this will seem credible to any that by considering what happens in the surface of the body, apprehend what must ensue upon their maturation within: and those *Ignorants* who have admired at *these events* in the *state*, and *declination*, will cease to *wonder*, when they assume these thoughts of *Physicians*, and weigh attentively the Augment, State and Declination *of the Pustules*.

To conclude this discourse; who hath not seen in the *Augment* of the *Small Pox* large eruptions of blood at the *Nose*, as also *menstruous* Fluxes ordinately and inordinately to intervene, *without any peril*; sometimes to the great benefit of the sick? About fourteen years ago I accompanied an eminent Physician to a Patient of his, in whom the *Small Pox* were come out *well-coloured*, and *plentifully*, yet did the *Feaver* continue, together with a deliriousness, want of sleep, and rest-

reſtleßneß: to all which a great *Hemorrhagy* at the Noſe (of above fourteen ounces) did put a period: and of the *latter caſe*, I had (amongſt many others) an *happy Inſtance* lately at *Warwick*.

Inſtances of the happy ſucceſs of *Phlebotomy* in the Augment of the Small Pox, after they were come forth.

§. 7. The illuſtrious Lord of *Poyrin*, a ſtrong young man, was ſeiſed with a violent putrid Feaver; on the third day he was taken with a *looſeneß*, which reſembled what Phyſicians call a *Diarrhœa*: on the day following the *Feaver* and *Flux* continued with the ſame violence, and a multitude of *red ſpots* appeared all over his body, with a little protuberancy: on the fifth day, all ſymptomes perſiſted in the ſame violence, or rather encreaſed, whereupon I being preſent cauſed him to bleed *eighteen ounces*; after which operation all thoſe perillous ſymptomes did ſo abate, that within two dayes there was not any thereof remained. *Botallus* de venæ ſectione, c. 5.

§. 8. On the ſame day that the aforeſaid Lord was *let blood*, and in the ſame houſe, there was a Servant of Mr. *Barruſſa*, who was ſick of the ſame diſtemper; but he had no *Flux*: he had been ſick *four dayes*, and *two dayes* were paſſed ſince the *Small Pox* appeared: He was of the Age of eighteen years. I took from him a *pound of blood*; whereupon all his diſtemper left him, and he went about his buſineſs, attending on his Maſter, on the day following, which was the *fifth day* of his ſickneſs.

§. 9. Such *Phlebotomy* did alſo recover Mr. *Clermont* from a *Feaver*, and the *Small Pox*: as alſo—— *Villard*, one of the Queens Pages; and another Page of

of the Duke of *Alencon*'s, and many others were cured by me in that manner. Alſo that learned Phyſician *Pietreus* told me, that he practiſed this courſe with good ſucceſs upon his own Son.

I come now to the third Queſtion: **Whether in the State of the Small Pox Phlebotomy may be adminiſtred?** I call that the *State* of the Small Pox, when they are come to their *full bigneſs*, and become *white*, and *repleniſhed with ſuppurated matter*: or, in caſe they are *malignant* or deadly Pox, I call that the **State**, when the *Puſtules* (being *green*, *blewiſh*, or *black*) are exulcerated, the ſubject parts corroded, and a *ſtinking*, *black* or *greeniſh* purulency iſſues. And here I avow that a *Phyſician* may ſometimes according to the *Rules of Art*, and with great judgment adminiſter *Phlebotomy*. 'Tis moſt true, that I cannot (to my knowledge) defend *this practiſe* by the Authority of any one *Writer* in Phyſick, except it be *J. Frommannus*, who finds ſome caſes in which he juſtifieth it in the *State* of the **Meaſils**. 'Tis alſo true, that the *common Precept* amongſt us is, not to diſturbe Nature in the *State*, when ſhe is buſied moſt about *Concoction*; but rather to ſuperſede from the *great Remedies*. But I have learned from *our Maſters*, that there is ſcarce any *Rule* in our Art, the Obligation whereof is not ſuſpended by **urgency**, and that they conclude us in the *ordinary*, not *enforced* procedures: "*Neceſſity is* "*abſolved from all Laws; and Wiſdome it ſelf pre-* "*ſcribes that we ſhould not alwayes take its counſels:* "*'tis certain ſhe meddles not with the regulation of ex-* "*tremities, nor with the conduct of Deſpair: She in* "*ſome encounters diſpenſeth us from thoſe things, which* "*in others ſhe ordered us. Without offending her, we* "*may croſs the fields when there is danger on the right* "*and left, and try whether an exceſs will not cure us, when* "*other remedies have ill operated; and caſt our ſelves* "*into*

1. *C. Frommannus* de venæ ſect. in declin. morbill. ſect. 104. *Hippocr. Aph.* 29. ſect. 2.

into the armes of an enemy, when she is no longer able to defend us. I am told by *Vallesius*, that although *Diocles*, and *Celsus*, and some others have prohibited *Phlebotomy* after the *fourth day:* and though *Avicenna* profes that *venæ-section* being once *pretermitted* ought not to be *resumed:* yet both these tenets are *erroneous*: for though *Phlebotomy* be most convenient in the *beginning* of the Disease, yet ought it not to be excluded in the *other times*, when occasion requires it. There are few Diseases whose beginning extends not it self beyond the *fourth day:* and even in the *declination* oftentimes we may beneficially *let blood*, for the *attemperation of the inward parts, to ventilate the body, and allay its inward fervour:* How much more then in the *Augment*, and *State?* Besides, *Galen* himself laughs at those who confine the use of *Phlebotomy* within a certain number of dayes. "*Quocunque* "*etenim die mittendi sanguinis scopos in ægrotante in-* "*veneris, in eo præsidium hoc adhibeto, etiamsi vigesimus* "*ab initio morbi dies fuerit. Quinam vero fuerunt hi* "*scopi. Magnus morbus, virium robur, excepta ætate* "*puerili, & ambiente nos aere admodum calido.* In another place he sayes, *There is not any time of a disease in which you may not bleed; but the sooner it is done, the better.* Another sayes, *Ubi magnitudo morbi postulet, & vires permittunt, non solum octavo die, ut Hippocrates Anaxioni, sed & decimo, ac vigesimo, felici successu* "*venam secamus.* This point is excellently prosecuted and illustrated by *Botallus*, to whom I referre our Experimentators for to be satisfied. And I must avow that in *other diseases* I have never scrupled at *this caution*, as others, but practised it *with success* in the *State*, and sometimes *Declination*. And *why we may not do it in this Disease?* is the present Question. It is certain that in the *Small Pox* at this *time*, there happeneth sometimes a *Strangulatory* distemper

Valles. meth. med. l. 4. c. 2.

Galen. de sang. missione, c. 20.

Galen. meth. l. 9. c. 5.

Hier. Rubeus in *C. Cels* l. 2. c. 10. p. 94.

Botallus de venæ sect. c. 22. Concerning *bleeding* in the *Augment*, *State* and *Declination* of a *putrid Feaver*, see *Caspar Bravo* Resolut Medic. p. 4. disp. 1. sect. 7. resolut. 8, 9, 10.

distemper or *Squinancy*, sometimes a *Pleurisie*; sometimes a *Diarrhœa* or *Dysentery*: sometimes an immoderate Flux of the *Menstrua*: In all these cases 'twere great *indiscretion*, if not *ignorance*, to omit *Phlebotomy*: If any of them can be disputed, 'tis that of a *Diarrhœa* and *Dysentery*: and yet that is so vindicated by *Botallus*, and *Prosper Alpinus*, (not to mention others) and attested unto by a successful *Experience*, that 'tis no longer a Controversie. I have already shewed that *Phlebotomy* doth not draw back the *expelled* matter: but promoteth *transpiration*, which is impeded by the maturation of the *Pox*, during the State: it *ventilateth* the blood, hindereth further *putrefaction*, and diminisheth that *plenitude*, which, whatever it be, is too much for *debilitated Nature* to govern: it revelleth the *impacted* humours, or such as are *flowing* to any *determinate* part: so that not only in the *aforesaid cases*; but if a new Feaver arise *then*, or any danger threaten the Patient in the *declination* (both which cases often occurre) I do not see why it *may not* (or *ought not*) to be done, whatever the peril be that *may* happen thereupon. Few there are but have so much *strength*, as to bear a *small evacuation by blood-letting*: and he is unacquainted with his *profession*, who hath not seen *prodigious effects* arise from a *minute Phlebotomy*. Our Writers do sufficiently explain the *signs* by which *we* are to be assured, *Whether the Patient can bear Phlebotomy*; and in *what quantity*: which *conjectures* if they be not *duly* pondered, 'tis the default of the *Physician*, not of the *practise*, when any *sinister event* doth ensue. And therefore I can only recommend to the World *this caution*, that they make use not of such Practitioners as *talk most*, and pretend to *new Reasons*, *Methods*, and *Medicaments*; but of those who best understand the *old Diagnestics*, *Prognostics*, *Methods* and *Medicaments*, in order to a Cure: and have from more than *one* or *two*

Botallus c. 5. Prosper Alpinus de med. Ægypt, l. 2. c. 7.

Books

Books informed themſelves of the *hiſtory of Phyſick*, as it relates to *particular caſes*, and by a diligent attendance on their practiſe obſerved the truth of *what they have read*, and learned to accommodate their *Rules* to each *individual*. Could a man ocularly demonſtrate all the *curioſities* of *Malpighius* by the beſt *Microſcopes*, or manifeſt the *Ductus rorifer* of *De Bils* unto any Spectator: nay, what if he could make the *volatile Salt of Tartar*, or the *Helmontian tincture of Amber*, or even the *Philoſopher's ſtone*, what is this to practiſe? How much leſs are *they qualified*, who can alledge nothing for *themſelves* then that they are *enrolled* in the *Society of the Roſicrucians*; that ſo many men *extol them*, who are *obliged* to magnifie (*juſtly* or *undeſervedly*) all of *their number*; and that they are *good Wits*, *ingenious Drolls*, Maſters of ſome *Mathematical* and *Mechanical knowledge*? As to the point of *Concoction*, that tis not to be hindered; In the *Small Pox*, if they be *ſalubrious*, this conſideration is overſwayed by preſent *Urgency*; and if it were not, yet would that repugne only to a profuſe evacuation; and *contra-indicate* no more, then doth the regard unto the *ſtrength of the Patient:* a *minute* and *partite Phlebotomy* doth not impede any *concoction*; as our *book caſes*, and *daily practiſe* ſheweth: And in caſe the *Small Pox* be *perillous* or *deadly*, 'tis moſt certain that there is either *no concoction* at all, or ſo *imperfect* a one, that it doth not at all oblige the *Phyſician* to ſuperſede, but rather to proceed *hereunto*, except he be timorous and unwilling to *diſparage ſo generous a Remedy*, or the *Patient* and *Attendants* be averſe *from it*. Neither of which *regards* are ſo authentick as to derogate from the attempts of thoſe who *will not abandon their Patients to the uncertain prognoſtics of acute diſeaſes:* however *they* may in *ſome ſort* excuſe thoſe that take a contrary courſe.

The last Question is, **Whether in the declination of the Disease a Physician may practise Phlebotomy?** I call that the *Declination of the Small Pox*, when the matter in the *pustules* is condensed into Scabs, and they dry up, and the *Epidemis* with them doth pill off, leaving *impressions* or *marks* in the Skin. This *Question* doth not relate unto the *mortal Pox*, for they have **no declination**: but to such as are *salubrious*, and though they may have been accompanied with *dangerous Symptomes*, yet are now in an *hopeful way of recovery*. Or if we must allow a **Declination** in the *pernicious malignant* Small Pox, it can be only one that is *uncertain* and *fallacious*; for when any Patient feels an *unexpected* alleviation, and such is grounded upon *no reason*, there is no trust to be placed therein. "*Iis quæ non secundum rationem sublevant, non oportet fidere: neque terreri multum, ob mala quæ præter rationem fiunt: pleraque enim horum sunt infirma, neque diu manere atque durare consueverunt:* In this *time*, I say, there may happen such cases as require *Phlebotomy*, and in which it ought to be practised. 'Tis observed that a *Flux* in the *declination* of the *Small Pox* is generally mortal, although it be not accompanied with a *Dysentery* or exulceration of the *Gutts*. It is no *critical* evacuation, because *such* happen not at *that time:* and because it befalleth the Patient in the most *unseasonable time* of the Disease, when Nature is most *debilitated* with the precedent Disease, and ought rather to testifie signs of *strength*, then of *further imbecillity:* it enforceth us to employ all those cares which a *symptomatical evacuation* doth call for: and in this case, since *purging* is dangerous, and *astringents* full of hazard, there seems no way so *safe* as *Phlebotomy* duly administred. It may also happen that the Patient fall into a *Pleurisie*: Thus in the case of *Frommannus*, in the *declination* of the *Measils*, the Gentlewoman fell into a *Pleurisie*, which he indeavered to cure by

Hor. Augen. de febr. l. 9. c. 8. *Caspar Brave* resolut. med. part. 2. disp 3. resol. vii.

Hippocr. aph. 27. sect. 2.

Hor. Augen. de febr. l. x c. 8.

by *Phlebotomy*, and was defended in the *practise* by the best *Physicians* in *Germany*.

The Reasons which have been urged already in the other *times* will many of them justifie the Practitioner *in this*: and nothing is more certain in Physick, than that the use of *Phlebotomy* is not indicated by the *time of the Disease*, or *contraindicated* by any number of dayes, but by *other motives*: and that whensoever it is necessary upon any urgency, nothing but *want of strength* doth repugne thereunto.

It may perhaps be demanded, Whether upon the *declination* of the *Small Pox*, if there be any danger of an *Asthma* or *Consumption* to be contracted, it be safe to *let blood*, or in order to better *convalescency*?

I profess it may *safely* and *prudently* be done for *Revulsion*, before the humours be more radicated and setled there, and the Disease become *incurable*: for this is an infallible sign that the Disease is not *well terminated*: and then those *Rules* which oblige us not to intermeddle with any *perfect Crisis*, or indication, are *infirm*, conclude us not. Oftentimes we see *Rheumatismes*, and *Botches* to ensue, and *they* shew that all the *morbifick matter* is not ejected: Besides, in order to a *better convalescence*, if *Phlebotomy* have been omitted in the *beginning*, and that the *recovery* is likely to be *slow*, I think (and 'tis said to be the judgment of *Avicenna*) that it may be done: and I have seen it practised with a much more *happy success* than ever I saw *Purge* given in *that time*: But in this last case I referre it to every mans judgment to act as he please; and request only that they would not condemn others of a different *practise* from what they follow.

After all this discourse of *bleeding in the Small Pox*, I must conclude with this intimation, that in *sundry cases*, and *some habits of body*, 'tis possible that *Phlebo-*

tomy may be ſupplied by *Cupping-glaſſes* and *Scarification*: and I profeſs, that were the *Scarification* of the *Ægyptians* (mentioned by *Proſper Alpinus*, and frequently uſed amongſt the *Ancients*) admitted into *our practiſe*, I ſhould frequently preſer *them* before any *Phlebotomy*: Being in *Jamaica* I obſerved that the *Spaniſh* Negroes *there* did much uſe them: and during my ſickneſs of the *Colick* bilious, I had the curioſity to have them tryed upon me in the beginning. I obſerved that they were as indolent as *Proſper Alpinus* and *Mannus* do relate them to be: but *no blood almoſt enſued thereupon*: whence *they* preſaged to me a *long* and *violent* ſickneſs; ſaying, that all the *water* of my *blood* was tranſlated out of the *veins* into my *bowels*: yet I have ſeen them to extract one from another a *pound*, or more, as they pleaſed.

Proſper Alpinus de medic Ægypt. l. 3.

But I find my ſelf wearied with the proſecution of this Letter; and the *ſicklineſs of the ſeaſon* permits me not leiſure to carry on the debate unto the Scurvey: But whoſoever examines attentively *that diſeaſe*, will be eaſily ſatisfied that it *may* be *beneficial*, and oftentimes *abſolutely neceſſary* to the cure thereof. In thoſe Countries where it is moſt *frequent*, and where the *Climate* bears a great correſpondence with ours, this is the practiſe: as you may ſee in *Forreſtus*: I add the Authority of *Claudinus*: *Joel*, (who preſcribes the repeating of *Phlebotomy* at leaſt *three times*) *Rembertus Dodonæus*: *Severinus Eugalenus*: *Balthaſar Brunerus*: *Henricus Brucæus*: *Baldaſſar Timæus*, (who alſo reiterates bleeding ſeveral times) *Platerus*: *Sennertus*: *Baldwinus Ronſſeus*: *Jo. Wierus*: *Salomon Albertus*: *Matth. Martinus*: *Gregor Horſtius*: *Valentinus Andreas Mollenbroccius*:

Forreſtus l. 20. obſ. xii. xii, *Claudinus* Emperic. ration. l. 3. ſect. 3. tract. 4. c. 5. *Joel* pract. l. 2. ſect. 5. §. 4. *R. Dodonæus* obſ. med c. 33. *Eugalen.* de ſcorbuto, p. 150. 151. *B. Brunerus* (ſub finem Eugaleni) & *H. Brucæus* ibid. *Baldaſſar Timæus* caſ. medic. l. 3. caſ. 39. *Platerus* prax. ſ. 3. p. 431. *Sennertus* de ſcorbuto, c. 7. *B. Ronſſeus* de ſcorb. c. 8. *Wierus* in curat. ſcorbuti. *S. Albert.* de ſcorb. § 240, &c. *M. Martinus*, ſect. 145. &c. *Gregor. Horſtius* de ſcorbuto exercit. 2. ſect. xi. *Mollenbroccius* de varis c. 8. & 13.

lenbroccius: and the *Colledge of Physicians* at *Coppenhagen* (in their advice for the *Scurvey*, published by *Bartholinus*) I might add others to this *Catalogue*, but that 'twere needless. 'Tis true, that in the *Scurvey* many do not bear well large Phlebotomy; but that is not the Question: 'tis enough that they *minute venæ-section*, and that *reiterated*, doth agree well with *them*, and is oftentimes so necessary to the *cure*, that the omission thereof doth frustrate the most *efficacious Medicaments*. The Disease generally ariseth from an *obstipation of the Pores*, and such an alteration in the *texture of the body* as the *Methodists* would bring under Adstriction: and therefore *it* seldome occurreth in *hot Countries*, except the *wind* suddenly change into a *cold quarter*: and a multitude of Cures are recorded wherein *Phlebotomy* hath been the leading Remedy. The sick do frequently *bleed at the Nose*, and *Emrods*, &c. and since in distempers of the *Spleen* I find *Phlebotomy* commended, 'tis not to be denied in *this case*, without some special *contra-indicant*, which I am not yet acquainted with. *Bartholin. cist. medic. p. 506.*

I think I have in the *precedent discourse* enervated all that *M. N.* hath *maliciously* and *ignorantly* suggested against *Phlebotomy*: neither do I know one passage in *him* that can raise any *scruple* in the breast of a *judicious person*: but I must particularly caution him not to give too much credit to the *dotages* of Thonerus, a man of *little note* in his *own Countrey*; nor to go about to *delude* the World with Fables, as if the *Northern Climates* did not suit well with *Phlebotomy*: whereas it is notorious that no Nations do bleed more largely, nor more frequently than *they*: I will not insist on what they do in their *natural* or *artificial Bathes*, with *Cupping-glasses* and *Scarifications*, whereby they extract *many ounces* frequently every year; they applying *ten*, or *fifteen Cupping-glasses*, with *Scarifications*; which sometimes they repeat *twice* in one hour. *Th. Iordan. de lue vener. p. 13.*

As

As to *Phlebotomy*, in *Denmark* nothing is more common than whensoever the *Almanack* recommends bleeding, for every man almost to step into the *Barbers-shop*, and having *bled*, to go about his business: which custom though *Bartholinus* condemn, yet doth it evince the general use thereof *in time of health*: and who can doubt but that *they who bear it so well*, whilest free from any Disease but a tincture of the Scurvey: *might endure it in sickness?* did not a *puerile fear* in the Patient, or ignorance in the *Physician*, hinder them.

Th. Bartholin. medic. Dan. dissert. 9. p. 431, 432.

" *Adultiores alii in venarum apertione nimis sunt pro-*
" *fusi vel audaces, quippe visa fascia rubente ante ædes*
" *Chirurgorum appensa, ex Calendariorum signis depen-*
" *dentium, statim sine alia corporum præparatione in*
" *sella officinæ considentes brachium sine delectu pertun-*
" *dendum offerunt; & peracta operatione vel itineri se*
" *committant, aliisque negotiis conficiendis, vel vini mo-*
" *dium ebibunt: cumulati errores acri censura digni sunt:*
" *sed verba perdere nolo, quia Æthiopem me lavare scio.*
" *Monendum tamen duxi*, scorbutica nostra corpora
" *maxima indigere præparatione antequam generoso isti*
" *remedio subjiciantur.* If *letting of blood* were so *pernicious* in the Scurvey, 'twere impossible in so *general a practise* but the inconvenience would be discovered: and the people reclaimed from that inveterate vulgar custom of *Switzerland*; is, he that blameth *it*, doth thus describe. " *Solent nostrates, Ruricolæ in-*
Wepferus. de apoplexia hist. 3. p. 12.
" *primis, ter quaterve in anno venæsectiones usurpare, &*
" *quolibet vice duas, quandoque tres, non raro quatuor ve-*
" *nas pertundendas curant; emittunt sæpe binas sangui-*
" *nis libras*: Nulla cura est vel temperamenti, vel
" sexus, vel ætatis: *Videntur quandoque gravidæ, quæ*
" *bis terve gestationis tempore sanguinem vena secta ef-*
" *fundunt, nec etiam partui vicinæ a venæsectione sibi*
" *temperant, persuasæ salubrius puerperium agi. Vidi*
" *senes octuagenarios hoc remedii genus expertos: nec san-*
" *guine fuso admodum solliciti sunt, qua ratione inanitæ*
" *venæ*

c *venæ preſtantiore ſanguine replendæ ſint, frequenter*
c *enim ſtatim ac ſecta vena eſt, & cibo & potu nimio*
c *corpus inferciunt.* I have not read of the like *practiſes* in *France*, *Spain*, or *Italy*: Nay, 'tis in *Germany*, that for *healths ſake* very old men bleed largely twice *each year*: inſtance whereof are given by *Faber* in his Notes upon the *Mexican* Herbal. c c *Reverenda ca-*
c *nitie, & ſeptuaginta annorum decurſu venerabili præ-*
c *ſuli Jenenſi* Johanni Majori *plethorico ſalutaris erat*
c *ſanguinis per venam ſectam miſſio. Neque ingraves*
c *cente ætate ab ea erat alienus. Attingebat annum* 89.
c *ſenili confectus maraſmo.* Out of which 'tis evident, that whatſoever the *German* practiſe be in Diſeaſes, 'tis not their *Reaſon*, but *ſuperſtition* and *imaginary fear* that makes them to decline to bleed therein: Nor do I find the relations of *M. N.* to be conſonant to the uſage of the *German* Phyſicians, except you will judge of them by the adherents of *Helmont* and *Paracelſus*. I might except againſt *Thonerus*, that in his *Appendix* he profeſſeth that he doth not abſolutely reject *Phlebotomy* even in *malignant Feavers*: and as good, if not a better *Phyſician* than he doth give this account, in oppoſition to him: c c *Experientia teſta-*
c *tur quod non ſolum in* Febribus his, *ſed & in* va-
c riolis & morbillis, *venæſectio in initio adhibita*
c *cor humoribus non repleat, ſed roboret, ut expelle-*
c *re poſſit ſufficienter* variolas, Morbillos & Petechias.

Rolfinc. method. medic. ſpecial. l. 4. ſect. 2. cap. 5.

Io. Dan. Horſti. *in* obſ. & epiſt. ep. x. p. 54.

But I find my ſelf to exceed the bounds of a *Letter*; but I hope you will pardon the *length* of it, ſince it was an effect of my compliance with *your deſires*: and if I have not *fully* anſwered *them*, nor *poliſhed* my Diſcourſes as they might otherwiſe have been, be pleaſed to conſider the *ſhortneſs of the time* allotted unto me, the great *diſtraction* with which I write,

write, and the *multiplicity of controverſities* I have intreated on, and the *multitude of books* which I found my ſelf obliged to *conſult*, and *tranſcribe paſſages* out of; and then I doubt not but I ſhall obtain your pardon, whereunto that I may have the more colourable title, I avow my ſelf to be

Warwick April 3
1671

Your moſt humble and

devoted Servant

Henry Stubbe.

Paſſages

Paſſages to be added.

WHere I ſpeak concerning *Peſts*, that though agree in the ſame *Generical Nature* for the *moſt part*, yet do they *ſeldome* or never appear to be of the ſame *ſpecies*, ſo as to be cured by the *ſame Method* and *Medicaments:* becauſe I find ſome ſo *ignorant* as to ſcruple thereat, I add here the teſtimony of *Felix Platerus* the renowned *Phyſician* of *Baſil*, who lived amidſt *ſeven* Plagues.

Felix Platerus prax. t. 2. p. 69. de febr. cauſis.

" *Venenum peſtilens ejuſdem naturæ minime eſſe, ſed* " *diverſæ, effectus illius tantopere differentes, qui corporis* " *affecti conſtitutionis ſolius cauſa, non ſic variare poſſent,* " *oſtendunt. Cum aliqua regeret peſtis, quæ ſine diſcri-* " *mine in omnes vel pleroſque ſæviat: alia vero paucos* " *tantum invadat: alia quæ quotquot tetigerit, interfici-* " *at, magnamque ſtragem edat: alia, qua correptorum* " *multi ſanantur: verum quidnam in veneno latens illi-* " *us varietatis cauſa ſit, atque unde proficiſcatur, uti &* " *in cæteris venenis, deſcribi minime poteſt.*

The ſame is averred by *Joſeph de Medicis* a *Candiot*, who had ſeen many *Plagues* in *Greece* and *Turky*, in *Ægypt* and *Paleſtine*, in *Tartary*, *Valachia*, *Tranſylvania*, *Ruſſia*, *Poland*, *Lithuania*, *Pruſſia*, *Denmark*, *Saxony*, *Holland*, *Germany*, *Bohemia*, &c. and never declined to viſit the *ſick*.

Joſeph de Medicis Cretenſis inter opera *Gregorii Horſtii* t. 2. l. 1. de febribus, pag. 46.

" *Secundum, Aſſero unamquamque peſtem vel morbum peſtilentem, propriam habere naturam & peculiaria accidentia concomitantia vel inſeparabilia, neque ejuſdem ſpeciei eſſe omnes peſtilentes morbos, ut etiam plures & diverſæ ſunt ſpecies venenorum.*

" *Tertium, Ut unumquodque venenorum, vel aſſumptum vel injectum, vel admotum propria ſequuntur accidentia (ſymptomata ſupervenientia Medici appellant) & proinde peculiaria requirit antidota & alexipharmaca; ita unamquamque peſtem habere propria ſymptomata, & proinde indigere propriis præſidiis: quod Axioma non advertentes vulgares & triobolares Medici, eandam herbam v. gr. Tormentillam vel Scorzoneram, quam quondam aliquis in bello Trojano longe alia peſte affectus cum utilitate adhibuerat, tanquam Catholicum Alexipharmacum, ac ſi eſſet Theriaca, in omni cujuſcunque generis, regionis, & ſæculi peſte, indiſcriminatim, omni ætati, & ſexui approbant, exhibent & cum magno vitæ diſcrimine uſurpant.*

The *ſame Author* in that moſt excellent diſcourſe of his, (which contains the reſult of thoſe thoughts which forty years practiſe had created in him) aſſerts *Phlebotomy* in the *Plague*, *Spotted Feaver*, and *Small Pox*: and concludes his diſcourſe with this Relation,

Ibid. pag. 57.

" *Unicam Hiſtoriolam placet hic afferre, quod mihi ipſi evenit* αὐτοψία *& χάριν breviter narrare. Anno* 1629. *Amſtelodami (ubi aliquot annos publica ſtipe altus vitam tranſegi) peſtis graſſabatur, primo quidem ſolos in pauperes & egenos lacte & caſeo victitantes, ſed poſtea*

c poſtea Autumni tempore enormiter ferociebat, & ple-
c bem & patritios indifferenter invadebat ſæviſſimeque
c depopulabatur, adeo ut ſingulis diebus trecenti vel qua-
c dringenti deficerent: Nemo mihi nec aliis phlebotomi-
c am conſulentibus annuebat (erant vero tunc temporis ibi
c magni nominis Medici ex natione Luſitana, præſertim
c Zacutus vir eruditione inſigniſſimus, & multa experien-
c tia clarus) ſic miſere multa hominum millia peribant:
c ſunt enim Belgæ omnes natura αἱμορῤῥοι, i. e. ſanguinem
c mittendi timidi tanto magis tempore peſtis, in quo ipſi
c ſuæ gentis Medici phlebotomiam deteſtabantur; ali-
c quibus ſanguis e naribus ubertim fluens plurimum con-
c ferebat, ut etiam bubones erumpentes in emunctoriis co-
c pioſam ſaniem eructantes, abſque periculo infirmos eſſe,
c declarabant. Plurimis in gutture fiebant inflammatio-
c nes, quibus neque venarum ſectio ſub lingua, neque gar-
cc garizationes vel cataplaſmata ullum emolumentum affe-
c rebant, ante enim maturationem ſtrangulabantur. Ego
c vero cum eadem lue me graviter oppreſſum & improba
c angina fere enecatum viderem, quod mihi fuit vere no-
c vum & inopinabile, cum nunquam peſte fuerim infe-
c ctus, etſi audenter eadem lue infectos ſemper viſitaverim,
c ſed incolumen me conſervaverim, tertio vel quarto die
c (tentaveram prius multa media & præſidia an poſſem a
c tanto malo liberari) juſſi venam medianam dextri cu-
c biti mihi ſecari, & ſanguinis ſeſquilibram mitti, a
c qua cum nihil detrimenti, vel virium languorem perce-
c piſſem, (quamvis neque etiam morbi remiſſionem) ſe-
c quenti die tantundem ex altero brachio exhauriri impe-
c ritavi: quæ ſolo præſidio, dei non abnuente, totam vi-
c rulentiam e corpore emiſi, & breviter me a tetrica peſte
c expediri, atque hoſtem jugulum petentem, plumbeo
c (ut dicunt) gladio jugulavi: quod ſalutare Medica-
c mentum plurimi poſtea adhibentes atque mea veſtigia
c ſequentes, ſcilicet ſanguinis miſſionem celebrantes, ve-
c re e mortis faucibus erepti & vindicati ſunt.

In the account of the Small Pox I omitted the opinion of *Franciſcus Oſwaldus Grembs*, a German *Phyſician* of good note, and great admirer of *Van Helmont*, who yet allows of *bleeding*, in ſome caſes, in the Small Pox. His words are theſe.

Fr. Oſwaldus Grembs: Arbor hominis integra & ruinoſa, l. 2. c. 3. de febr. malign.

" The danger of the Small Pox doth conſiſt in ' two caſes: Firſt, if Nature move the hot and vitious ' humors, and is not able through *debility*, or their *te-* ' *naciouſneſs*, or the *denſe habit* of the body, to expel ' them: and then the Diſeaſe becomes deadly, the hu- ' mours recurring upon the Heart and Vitals: Se- ' condly, if Nature do protrude them forth, and is not ' afterwards able to regulate them by reaſon of their ' *multitude*, or *malignity*, but that the Feaver becomes ' more *malignant* then at firſt, and either diſpatcheth ' the ſick, or deſtroyes ſome particular parts with a ' moſt fætid corruption therof. There are *four Indi-* ' *cations* for the cure of the Small Pox: The firſt is ' to evacuate what is redundant: The ſecond is to ' proſecute the emotions of Nature: The third is to ' reſtrain the venenateneſs of the Diſeaſe: The fourth ' is to ſecure ſome particular parts. And becauſe the ' *Feaver* which goes along with the *Small Pox* is a *Sy-* ' *nochus*, it requires Phlebotomy; here is no room ' for *purging*. In Children *Scarification* in the Armes, ' calf of the Leg, and Noſtrils, or *Horſe leeches* applyed ' to the Back, Breech, or Thighs, may be uſed inſtead of ' *venæſection*, when the *Small Pox* do not come forth. ' If the Pox do come forth kindly in the beginning, ' none of theſe things are to be practiſed. In grown ' people a *minute Phlebotomy* is to be practiſed after the ' firſt or ſecond day only, when the Humors are protru- ' ded, 'tis dangerous (for it draws in the Humours) ' except

'except ſome new accident, as a *Pleuriſie*, does render 'it neceſſary. When they are coming forth Nature is 'to be aided with *Frictions*, and Alexipharmacal Cor-'dials, as *Bezoar*, *Unicorns-horn*, *Electuarium de Gem-'mis*, &c.———

'A noble Lady of the age of fourteen years fell ſick, 'and bled at the Noſe, ſhe had a nauſeouſneſs at Sto-'mach, and great pains in her back: the Phyſicians be-'ing ſent for, a Clyſter was propoſed of Broth with 'Caſſia, it came away without any operation: her 'pains and Feaver increaſed, and certain ſpots appear-'ed behind her Ears, which portended the *Small Pox*: 'one of the Phyſicians commended *Blood letting*, as 'the moſt ſuitable remedy for a great diſeaſe, and not 'inconſiſtent with her years and ſtrength, eſpecially 'ſince ſhe was plethorical; hereby, he ſaid, the *blood* 'being diminiſhed, the veſſels would be leſs diſtended, 'the malignity repreſſed, and pains mitigated: But ſo 'it happens frequently, that we cannot embrace the 'moſt obvious counſils, whether it be an imbecillity in 'our minds, which being diſtracted betwixt hope and 'fear, and ſollicitous about the future, forgets the pre-'ſent urgency: or whether it be the method of Pro-'vidence, which to effect its deſigns tranſports us be-'ſides our ſelves: The reſt of the Phyſicians ſeemed 'aſtoniſhed at the propoſal, and neither aſſenting, nor 'diſſenting, proceeded only to inſinuate the peril of 'that operation: But, that they might ſeem to do 'ſomething, they propoſed an anodyne Fomentation 'to mitigate her pains, which having continued ten 'hours, produced no benefit: The enſuing night ſhe 'was very reſtleſs, and on the morning her ſtrength be-'gan to be ſenſibly impaired: thereat the Phyſicians 'were much troubled, and conſidering the preſent 'exigency, they gave her a Cordial of *Bezoar* and the '*ſpecies de Hyacintho*: it was not given ſooner, 'becauſe there was amongſt the number one who

was

'was extreamly averſe from giving any Cordials in the 'Small Pox, to bring them forth, as if thereby the humours were exaſperated, the ebullition rendered too 'violent, and the Puſtules protruded in ſo great an 'exceſs as to ſtrangle the Patient, he ſaid that Nature 'underſtood her own work, and could do it beſt, that 'ſhe was to be left to her ſelf, and needed no incentives: And by theſe ſuggeſtions he intrigrued the 'determinations of the Phyſicians, ſo as that no *Cordial* or Alexipharmacon was given ſooner. The Patient having taken ſome of the aforeſaid *Cordial*, and 'afterwards avoided a *great deal of blood* by Urine: 'which yet ſome ſuſpected to be a *Menſtruous* excretion: a little after ſhe vomited up a *great deal of blood:* this ſame took to be a *Critical* effort of Nature, which had alleviated the violent ebullition of 'the blood in the greater veſſels by diſcharging a part 'thereof at the Mouth and ordinary paſſages: in the 'mean ſpace, the *malignity* of the Diſeaſe prevailed 'above the ſtrength of Nature, the *whole maſs of blood* 'being vitiated, and 'twas a miſerable ſight to behold 'the poor Lady as it were *drowned in her own blood*, and 'thus deſtroyed: all her back was full of large *livid 'ſetlings of blood*, as if ſhe had been bruiſed or whipped with cords; and being dead her body was opened on the ſame day, all her Bowels were ſound, the '*Liver* in no default, only the Lungs were blackiſh 'through the aduſtion of the blood in the Diſeaſe. 'And now the Phyſicians quarrelled one with another; one blamed the *Clyſter*, which impeded the 'courſe of Nature, and retracted the humours inwards, whoſe tendency was to the habit of the body: Others cenſured the Fomentation, which though '*anodyne*, might cloſe the *Pores*, and give occaſion to 'the *bloody urine*, by repercuſſion of the puſtulary 'matter. Thus one Phyſician inveighed againſt the 'errors of the reſt; whileſt indeed *all of them ought*

'*privately*

Grembs doth there defend the uſe of *Clyſters* by *practical hiſtories*: and ſo doth *Augenius* and many others: and I have known them uſed without any peril.

' *privately to confeſs, that* their great failour was in ' omitting Phlebotomy, and that this was the ' cauſe of her death. Thus Phyſicians oftentimes ' occaſion the death of their Patients, by not doing ' *what they ſhould*, and not only by *over-acting* : this ' laſt is the default of thoſe who attend on the ſick, ' and firſt try their own *pretended Experiments*, then ' have recourſe to the *receipts* of the *populace*, or pre- ' ſcriptions of ſome *practiſing Ladies*, and thus by *do- ' ing what they ought not*, they moſt officiouſly kill the ' ſick, and prevent the ſeaſonable adviſe of *wiſe Phyſi- ' cians*, who ought to have been conſulted at firſt. ' Theſe kind of perſons are in as much default as thoſe ' *timorous* and *cautelous* Doctors, who dare not admi- ' niſter thoſe Remedies which are neceſſary in *acute ' diſeaſes*, but by neglecting their Patients, ſuffer the ' Diſeaſe to prevail over the vital faculties, and kill the ' infirm.

Thus far the *Helmontian*, but (to give him his due) judicious Practitioner: and I recommend this caſe to the Abettors of Doctor *Whitaker* and Doctor *Sydenham:* ſince there appears upon *diſſection* that the *Small Pox* had not fixed themſelves *within*, but that a meer *ſurcharge of the maſs of blood* (either *natural*, or *contracted* from the *attenuation of the ebullient blood*) was the cauſe of her deceaſe.

I forgot in the concluſion of what I writ of the Small Pox, to ſpeak about *Bathing of the hands in the* Small Pox, the practiſe whereof Doctor *Whitaker* repreſents, as having been fatal to the *Princeſs Royal*. His words are, " I obſerve *Riverius* above pag. 60, 61. ' all other Authors to ordain the bathings of the ' hands and feet, by reaſon of the denſity of thoſe parts, ' in ſome more denſe than others, as in Smiths, Carpen- ' ters, and Foot-poſts, whoſe hands and feet are harder than

'than perſons of a more tender and ſedentary Trade 'or Profeſſion. I cannot but acknowledge that hu-'mectation, and attenuation to mollifie thoſe parts, is 'properly indicated; but the *mode* of this application 'is obſervable, becauſe upon the opening of the poro-'ſities by bathing, the ambient air may obtain the ad-'vantage of repelling the morbifical matter from thoſe 'ignoble and extream parts to the more noble, by the 'ambient air in the courſe of ſanguineous circulation; 'and hath proved fatal in ſuch as have rare and ten-'der ſkins, as is proved by the bathing the Illuſtrious 'Princeſs *Royal*.——Concerning that *Princeſs* how ſhe was ordered, and at *what time* of the Diſeaſe *ba-thed thus*, I know not: but 'tis an *equitable preſumpti-on* that in *ſo important a caſe* ſo underſtanding *Phyſi-cians* as ſhe employed, did nothing raſhly, or *without reaſon*. I find in the relation of her being diſſected *cauſes enough of her death*, without imputing *it* to this uſage: her *Omentum* was putrified, and much *inflamed* towards the Spleen-ſide: her *Spleen* was flaccid, and *ſemi-putrid*: her *Stomach* was *inflamed*, and on the in-ſide beſet with *Aphthæ*: her *Liver* ſpotted, and in-flamed even to a *Gangrene* almoſt: her *Lungs* in a manner rotten, and repleniſhed with black blood, ſpotted and puſtulated in the *ſuperficies*, the *Paren-chyma* of her heart was much conſumed. But had not theſe things been, nothing is more certain, than that of Petronius. *Quod non expectas ex tranſverſo fit, et ſuper nos negotium Fortuna curat.* But that *Ri-verius* doth preſcribe this Bathing above all Au-thors, is a *manifeſt falſity*. His words are only theſe:

Th. Bartholin. ep. medic. cent. 3. ep 29.

Laz. Riverius praxi. medic. l. 17. c 2.

' *Ac primum in eruptione Variolarum, aut dum matu-'reſcere incipiunt, ingens dolor vel pruritus interdum 'ægrotantes affligit; præſertim vero in plantis manuum 'et pedum, eo quod denſior in iis partibus cutis eruptio-'nem prohibeat. Cui ſymptomati medeberis, ſi partes 'illas decocto emolliente diutius foveas, vel in aqua calida 'detineas.*

detinear. I shall compare herewith the directions of *Horatius Augenius*, whose character I have already given.

He having prohibited the *bathing of the whole body*, doth add. " *Sed non est eadem ratio in particulari* Hor. Augen. de febr. l.x.c.x.
" *balneo, cum scilicet partes aliquas spiam extremas lavacro*
" *calido fovemus, ut ex illis duntaxat citius & facilius*
" *variolæ exeant, doloremque mitigemus, ut plurimum,*
" *satis insignem*: hoc quidem prætermitti non debet.
Nam plerumque accidit, ut ex volis manuum & plantis
" *pedum variolæ non erumpant, nisi cum maxima difficultate, et dolore: propterea expedit fovere eas partes*
" *aqua calida aliquando simplici, et aliquando simul de-*
" *coquendo flores Camomillæ, aut Altheæ, aut violarum,*
" *vel aliud ejusdem generis, quod fuerit ad manus. Hæc-*
" *que antiqua extitit* Arabum *consuetudo; nam* Rha-
" *ses ita scriptum reliquit*: lib de Pestilentia, c. 8.
" Quod si in volis manuum expullulet, tu hasce ex oleo
" tepente, quo gossypia imbuta sint, multum refricato,
" & in calida aqua foveto. Verum si dolor non sede-
" tur, nec pestis facile expellatur, tu sesamum perpur-
" gatum ubi contuderis, & in lacte maceraveris, illico
" illinito, & in linteo per totam noctem alligato: de-
" hinc ubi amoveris, & calente aqua foveris, rursus illini-
" to. Verum si velis, palmulus ubi contuderis, & in bu-
" tyro maceraveris, vel in sesami fæce illinito: Siqui-
" dem hæc, & similia, cutem remolliunt, faciuntque ut
" pestis facile excernatur & dolores cedant. *Hæc Rha-*
" *ses.* *Quæ omnia judicantur mihi saluberrima in præ-*
" *senti casu, nisi quod abstinerem ab oleo, quia facit ulcus*
" *ipsum sordidissimum, ac sanatu difficile.* Ego au-
" tem nullum inveni præstantius remedium,
" quam fovere partes extremas manuum & pe-
" dum aqua tepida: *vel decoctione florum camomillæ*
" *& Altheæ. Quod si emollire adhuc magis voluerimus,*
" *decoquo simul semina fænugræci.*

This Bathing is no less recommended unto our practise by the diligent and learned *Forrestus*, who speaking of an ancient Woman, (of fifty years old) which was sick of a Malignant pestilential Feaver, accompanied with the Measils, (that came out on the *sixth* day) concludes the Observation thus:

Forrestus lib. 6 obs. 42.

"*Huic tamen (quod fere jam omiseram) ingens pruritus & punctio in plantis pedum ac volis manuum aderant; pro quo symptomate mitigando, quum maxime eo & intolerabiliter afflingeretur, ut se potius mori velle diceret, quam illum pruritum & punctionem ferre, jussi ut pedes & manus continue foveret in aqua calida. Quo consilio pruritus tum punctio cessarunt, et melius per cutem in volis manuum et pedum morbilli emergebant. Hujus rei experimentum notatu dignum ab ipso Astario Sapiensi medico accepimus, quod etiam Arcanum a Nicolo Florentino medico sui temporis insigni mutuavit: cum idem sic scribat cap. de Variolis et Morbillis, circa finem, de corrigendis accidentibus eorundem.* Si fuerit punctio plantæ pedum, aut palmæ manuum, ponantur dicta membra assidue in aqua calida: ut dicit Nicolus, & ego vidi multum conferre. *Hæc Blasius Astarius Sapiensis in libello suo* de curandis Febribus, *qui adjunctum est praxi Gatinariæ: quo quidem experimento ab hoc symptomate molesto et gravi nostra ægra liberata est, et brevi, Dei nutu, evasit et in totum sana facta est.*

Herewith agreeth the injunction of *Hoeferus*, which runs thus. "*Ubi* in variolis *plantæ pedum et manus, quod sæpius fieri solet, gravi pruritu vexantur immitte membra in aquam calidam, quod pro secreto habet Forrestus.*

Hoeferus Herc. medic. lib. 7. p. 366. edit. ult.

I need not any more *Authors*: what hath been said, is sufficient to *justifie the practise* to any intelligent person, and to disprove the *Assertion* of this *Doctor*; but

but as *that* is most *untrue*, so are the Reasons he gives no less *vain*. Whereas *he* is pleased to think that there is no such *density* in the *skin of the hands*, as is generally supposed, except in *laborious persons*: 'tis certain that some have it so *naturally*: as *Scipio Nascica*, who was therefore *in raillery* demanded by one, *If he used to walk upon his hands?* Moreover, though that which is called by Anatomists the *Cutis* be *thinner* in the *hands* and *feet* than in other parts of the body, yet is the *Cuticula* thicker there, and 'tis possible that even it may admit of a *latitude* in its *native density* and *porosity* in *individuals*, since 'tis acknowledged and hath been observed, that some persons have had a double *Cuticula*. It is also certain, that the *texture* of the *Cuticle* may be so changed, that those humors which issued thereout by way of *insensible transpiration*, may be at some times *intercepted* and lodged in the *skin* and under the *Epidermis*: and if so, *Why may not that happen in a determinate part, which does happen universally?* In fine, 'tis frequently observed in *Scorbutics* and such as are said to have an *hot Liver*, that they feel a troublesome *heat in the palms of their hands*, and *soles* of their feet, (notwithstanding that otherwise they have *delicate* and *tender skins* or *bodies*) which introduceth a *dryness* in the *Cuticle* there: and *can there be dryness without a condensation of the Pores? or can there be such an heat, without an obstipation thereof?* And doth not such a *condensation*, *dryness* and *heat* indicate a befitting *relaxation* and *humectation?* How then cometh it that any man should deny the *possibility* of the *Phænomenon* in the *Small Pox* (especially since daily events make it *sensibly* manifest) or refuse to practise what is indicated? I confess the old procedure of *England* is, to anoint with *unsalted Butter*, or to *bathe with Butter and Beer*; which is conformable to the documents of *Rhases*: But you see the practise of *France*, *Italy*, high and low *Germany*, doth warrant the

Petrus Laurembrg. Colleg. Anatom. disp. 2, sect. 14

P. Laurembrg. ubi supra, sect. 13.

use of *warm water*. He further urgeth, that *upon the opening of the Pores by bathing thus, 'tis possible for the ambient Air to gain such an advantage upon the sick, as to repel the morbifick matter from these ignoble and extream parts to the more noble, in the course of the sanguineous circulation.* But since *continual practise* doth manifest (as appears by the *Authors* cited) that this doth not *inevitably* nor *commonly* happen, *What is an effect of negligence in the Attendants, or unknown idiosyncrasy of Patients, doth neither disparage the Physician, nor contra-indicate to the Remedy.*

And so much for Doctor *Whitaker*; to whom the *English* are obliged for his *good intentions* towards *them* in *that Treatise*: but not for *his performances*: 'tis his latest *Legacy* to his Countrey; but in *Legacies* it often falls out that the *Legatee* receives no other benefit by the gifts of a *Testator*, than that he is assured he *remembred* him, and had some *resentments* for him.

where I say that *letting of blood* doth not, except *by Accident*, in *some persons*, produce fatness: I do confirm my Assertion further by the Authority of *Epiphanius Ferdinandus*, who in his advice to an *Italian* Prince how to prevent *excessive Corpulency*, doth direct a *Phlebotomy*, and that to be *repeated* in both Armes. Neither do I remember any *Commentator* upon the *Aphorismes* of *Hippocrates*, who hath not directed *that course* for the *extenuating* of *Athletick* bodies. This is a case in which the *Germans* are reconciled with the *French* and *Italians*; and wherein *Prosper Alpinus* accords with *Franciscus Silvius de le boe*: the former sayes, that since *frequent* and *large eruptions of blood* do continue the Patients *lean*, or reduce them, that are otherwise *fat*, to *such*

Epiph. Ferdinand. histor. med. 82.

Holler. in sect. 1. aph. 3. & Liebaut. Hier. Thriver. ibid. Heurnius ibid.

Prosper Alpin. med. method. l. 4. c. 19.

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an habit; that even *Nature* ſeems to inſtruct an *Artiſt* ſo as to promote *ſuch like evacuations*. And the latter avows that *immoderate growth of the muſculous parts is to be prevented* (amongſt other acceſſional courſes) *by often bleeding*. Fr. Silvius de boe pr. med. l. 1. c. 38.

I think there needeth not any more to be ſaid about the point: neither can it be juſtly doubted, but that if *Phlebotomy* had ſo uſually produced this effect of fatneſs, it would have been reduced into *obſervation* by *Phyſicians* before 1650.

A

Where I treat concerning *Phlebotomy* in the Small *Pox*, that it may be ſafely adminiſtred, even *after that they begin to appear:* It is juſtified by a multitude of *Examples*, one whereof lately was Sr. *W. Roberts*, aged above forty years (as I am moſt credibly informed) they did not come forth *kindly*, but *moſt perillous ſymtoms* did multiply upon him, ſo that his condition ſeemed *deſperate*; yet upon the adminiſtration of this *generous Remedy*, their *eruption* was expedited, and all danger ceaſed, ſo that he recovered *with eaſe*. And at *New Colledge* in *Oxford*, in the year 1660. (or 1661. I remember not well the year) the *Small Pox* raged with much *malignity*, and proved *mortal* to many; but it was aparent that *few* (if *any* dyed) who were *let blood*; whereas on the contrary, thoſe *that were not Phlebotomiſed died all*, (or *generally*) *deceaſe*: This I was aſſured of by more then one, who were then preſent; though not being *Phyſicians*, they could not inform me of other *particular Circumſtances*.

Concerning *Phlebotomy* in general, there is one Objection againſt it, that I think I ought to take notice of, ſince it proceeds Originally from ſome *Virtuoſi*: And though *one* that hath urged it, be moſt groſly miſtaken in his aſſertion that the *Turks* uſe no *Phlebotomy*, the contrary whereunto is not only evident out of *Proſper Alpinus*, but is confirmed unto me by the obſervation of my intelligent friend Mr. *Denton* of Q. Colledge in *Oxford* (nothing being more frequent at *Conſtantinople* then to *bleed* upon every ſmall occaſion, and every *Barber* there being a *Phlebotomiſt*) yet I believe that in *China* and *Japan* the *Natives* do not practiſe *Phlebotomy* though the *Europeans* there do: Notwithſtanding *this*, I do, not apprehend the force of the Objection as 'tis managed againſt *Plebotomy*, nor can I commend *their judgement* who from *thoſe Preſidents* (which indeed are but one Authority, the *Japoneſe* being no other then a *Chinaſe-Collony* (would put *us* upon an Eſſay of practiſing without *Venæ ſection*. Eor, the difference of *particlar Countries* and *Nations* (ariſing either from their *Temperament*, *Diet*, and *Efficacious Medicaments* and *Method of Curing*) as to render *Phlebotomy*

* *Place this after folio* 257.

Phlebotomy uſeleſs or dangerous *there*; whereas in *other places* there *may be* (nay 'tis certain is) a *neceſſity* for a *different procedure*. I have already remarqued that at *Montpelier*, there is a greater *repugnancy* unto, and danger of *Phebotomy*; then at *Paris*: And the Preſidents of the *one Province* doth not oblige the *others*: And though it be true that as in *China*, ſo in *Languidock*, Phyſick is in a good condition, yet doth it not follow that therefore it is in a *bad condition* in the other parts of *France*, *Spain*, or *Italy*, &c. 'Tis no leſs certain that in *hot Countries* (as well as here in *Summer* and *Winter*) the *method of carrying* varies from what *is to be practiſed in colder Climates*: And as wounds in the *Head* and *Leggs* are in ſome places cured with much more *eaſie Medicaments* then elſe where: So 'tis no leſs manifeſt that 'tis *irrational* to conclude from the *facility* of thoſe Cures in the *places aforeſaid*, that thoſe are *impertinent* and *miſtaken*, who in other *Regions* proceed by a more *tedious*, *circumſpect*, and *vexatious Method*. Againſt that ſingle *inſtance* 'tis almoſt the *voice of Nature* which *we* alledge: and ſince the *learned* and *Barbarous*, *Europe*, *Aſia*, *Africa*, and *America* (where no *Combination* or *Traditional Doctrine* derived from *one* to the *others* can be ſuppoſed) do concur to juſtifie the practiſe of *Phlebotomy* againſt the Natives of *Japan* and *China*, let us reckon it amongſt *their ſingularities* (and founded upon *motives peculiar to them*) or amongſt thoſe *Errors* which *their affectation* or *ignorance* hath particularly involved *them* in. To conclude, ſince the *Miracles* of their *Cha* or *Te* do not appear to *us Practitioners* in *Europe* to be *true*; though the uſe thereof be ſo ſucceſful *there*; the cauſe *thereof* is to be aſcribed to Circumſtances of their *Climate*, and *way of living*, and *acceſſional Therapeutics*) ſo neither is there any argument from *their Omiſſion* of *Phlebotomy*, that *we* may omit it *here*; or that *we* ſhould dare to *imitate them*; but of *this* we may judge *better* when the *Virtuoſi* receive from the *Weſt-Indies* ſuch an exact account of *all Circumſtances* as may regulate a *Phyſician*.

The ſame Obſervation is made concerning *Rhubarb*, *China*-root, *Guyacum*, *Sarſa*-parilla, *Contrayerva*.

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The ſame Obſervation is made concerning *Rhubarb*, *China*-root, *Guyacum*, *Sarſa*-parilla, *Contrayerva*.

A RELATION OF THE Strange Symptomes Happening by the Bite of an ADDER, And the CURE thereof: IN A LETTER TO A Learned Physician.

By *H. S.* Physician at Warwick.

LONDON,
Printed in the Year 1671.

A

RELATION

OF THE

Strange Symptoms

Happening by the Use of a

ADDER,

And the CURE thereof:

IN A

LETTER

TO A

Learned Physician.

LONDON:

Printed in the Year 1674.

TO THE READER.

ALthough the insolence *of some* pretenders to Experimental Knowledge *might discourage any* Physician *from contributing to the instruction of* this Age; *yet* I *have suffered my self to be prevailed upon so far as to publish* this discourse. *I might have enlarged upon it* several wayes, *and added besides some* Observations *upon* Adders, *the way of preparing* Viper-Wine, *and sundry* Cures *performed by* it, *and the prepared* flesh *thereof. But seeing that all* we *do of* that kind *doth but furnish a company of* arrogant *and* ignorant Experimentators *with subjects to oppose* us, *and undermine the* Faculty; *I am become inexorable as to that matter; and will*

not be in the least instrumental *towards the laying on of those* Fetters *which some men were* preparing, *not only for all* Artisans, *but all* ingenuity *and* learning. *This* race *of men who had determined to* value *and* praise *none but* themselves, *and extended their* Civilities *so far, that all their* mutual Elogies *do import no more than a* trade *of* smoak *and* ceremony, *may now abate of their* pride *and* censoriousness, *and be satisfied that they are not* necessary to the World, *except one have an occasion to send to the* East-Indies *to know what grows in* America, *or to* South-wales *for an account of* Nova Zembla, *or the Countries subject to the* North *and* South-pole: *If all* History *and* Antiquity *be to be affronted most* impudently; *if* false Relations *concerning* Salt-peter, Cider, Birch-water, *&c. seem* requisite: *If* Chimæras *be to be proposed, or the* Education and Religion *of our* native Countrey *changed, there is some use for this* Association, *which considering their* Armes, Projects *and* Deportment, *alwayes puts me in mind of that* Poetical Fancy *described to be*

Πρόσθε λέων, ὄπιθεν δὲ δράκων, μέσση δὲ χίμαιρα.

Had I written *according as* they replyed,

I

I could have confessed my self **mad**; *and less than a* **distracted Brain** *would never have chosen to desert Aristotle and* Quintilian *to imitate the fam'd* Impertinencies *of the Orator* Posthumus, *who being to plead a case about* three Goats *that were* stollen, *began an* Harangue *about* Sylla *and the* Mithridatick *Warre, and never touched upon the* main Controversie *any more then doth the illiterate* **Ecebolius**; *who what* He *designs I cannot tell by* flattering *Doctor* J. W. *and Mr.* R. B. *and terming an old* Parliament Officer *(who hath the* Canker *of* Presbytery, *and the* Conscience *of an* Olivarian; *and who knows nothing by* me, *a stranger to* him, *though he* hate *me for knowing* too much *by him) the* **Loyal** C. E. D. *And* Letter p. 31. *as great a* Riddle *is it, how this* Renegado-Presbyter *should dare to say, that* **there is not a Man born since 1936. less obnoxious to the Church and Government.** *Will the* **generous Cavaliers** *endure this* Ibid. *from a* **Rump-Chaplain**? *Who* confesseth *himself to have been a* Preacher *in those dayes, and never* **gave his Vote for Episcopacy** *(but preached against* Christmas-Pies*)* **till a year before the Kings coming in.** *Certainly he was a* **very Fool,** *who could be in* those dayes *so ignorant of the*

controverted Points; *and 'twere an* intollerable extravagance *in any but a* Virtuoso *to write this* now. *But I shall call him to a* particular account *for all by the* next Term.

A RELATION Of the ſtrange SYMPTOMES Happening by the Bite of an ADDER.

Honoured Sir,

I Have at laſt finiſhed the cure of that Man who was ſo unfortunately bitten by an *Adder* here at *Warwick*, and becauſe of the *rarity* thereof, I ſhall ſatisfie your deſires in penning it.

Upon *May* the ſeventh, 1671. *Joſeph Denny* a poor Man in *Warwick* (uſually employed by me to catch *Adders*) walked out with his *Brother* to conduct him a part of his way homewards, and having gone about a Mile, he eſpied an *Adder* lying in the Sun, it being about ſix a clock in the morning: he was willing to ſhew his Brother the *curioſity* of catching *them*, and how *dexterous* he was thereat: and though he had neither

Glove

Glove nor *Tongs* with him (as not designing *that work* on *Sunday*) he did notwithstanding cast himself near the *Adder*, and nimbly seising on her *Tail* threw her from her *Covert*, with such *celerity* that she could not *bite* him, and then haltered her with ease: A little after he espied another, but lodged in a place of more *difficult access:* In this attempt, which is performed with so much agility, it was his misfortune to seise upon the *middle* of the *Adder*, and before he could *disingage* his hand, she bit him on the inner side of his *middle finger*, just upon the *middle joynt*; yet did he dislodge her from the *Covert*, and took her. There appeared the impression of the *two teeth*, (though I spoke as of a *female*, yet it more than I know which it was, and usually they are *males* which have *two teeth*) but the *pain* was no other than one would feel upon the *pricking of a pin*.

Being sollicitous about his condition, he took leave of his Brother, and perceiving a *little blood* upon the wounded place, he *sucked* that and the *virulency* (as he thought) out, and then spate it forth of his Mouth: then he washed the place affected with *cold water*, and finding the *tumour* and pain to increase (which was not such as happeneth upon *inflammations*, but like that which precedeth a *Sphacelus*, and was accompanied with a sense of benummedness) he hastened home *unto me*, whom he knocked up before *seven a clock*, and having only time to signifie his condition, at the door, he ran to his own house, to enjoy the convenience of his *bed*, and the attendance of his *Wife*, who immediately repaired to me for directions; the whole Hand was extreamly *tumified*, and *black*, and the swelling began hastily to dilate it self towards the Elbow: He was seised with a *Vertigo*, *vomiting*, *swooning*, and a *cold sweat*, the violence whereof

whereof was ſuch, that the drops trickled from his Head, as if his Hair had been wet with a *great Rain*, or *water*: where each *Tooth* had faſtened, there appeared a *blackiſh Puſtule*, or *Bliſter*; I appointed his Wife to make a ſtrong *Ligature* above the *tumour*, at his Elbow; and having clipped the *Bliſters*, to hold a red-hot Fire-ſhovel as near to the part affected as he could endure it, and to give him a good draught of *Viper-wine* preſently: At her return ſhe found her Huſband not in a condition to ſpeak intelligibly, his Tongue was ſwelled, and he faultered in his ſpeech, as thoſe do who have an *Hemiplegia* or *dead Palſie* in their *Tongues*: Upon the drinking of the *firſt draught* of the ſaid *Wine*, he vomited up abundance of bitter *Choler* mixed with *Phlegme*, coloured *yellow*, *green*, and *blew*; then ſhe gave him *another draught*, (at both times *half a pint* at leaſt) whereupon his *vomiting* and *ſwooning* ceaſed, and his *ſpeech* returned to him: The *Ligature* had put an happy ſtop to the *progreſs* of the *tumour*, but the *heated Fire-ſhovel* produced no effect at all, the *tumour* and *pains* ſtill *increaſing* betwixt the *wounded place* and the *Ligature*: By this time I had got on my clothes, and haſtened thither with a *Chirurgeon*: I found the man as *cold* as any *dead Coarſe*, and all over turned as *black* as a *Tawny-moor*, (though otherwiſe his *skin* was very *white*) and amidſt the blackneſs of his *hue*, there was a viſible mixture of *greeniſh-yellow*: I could not feel any *Pulſe* in either Arm, and he complained of a *palpitation of the Heart*: I cauſed *two Scarifications* to be made on each ſide of the Finger above the *joynt*, as deep as the *tumour* permitted, and four more to be made on the *back of the hand* in the like manner: and upon inciſion the *fleſh* did *cut* as if it had been of a dead body, there iſſuing neither *blood* nor any *ſerous liquor*, though he had his *feeling* there as entire as ever: I layed to the

places

places a Plaiſter of *Venice-treacle*, and gave him *inwardly* above *half an ounce* thereof in ſome *Viper-wine*: the operation whereof was not ſuch as to beget any warmth in his *body*, or any *pulſe*, or the leaſt alteration in his *Arm*; whereupon I ſent for ſome *Angelica-water* (being unwilling to give him more of the *Viper-wine*) and put into a draught thereof at leaſt two drachms of *Mixtura ſimplex*, upon the taking whereof his *Pulſe* returned immediately, and a warmth diffuſed it ſelf all over his body, excepting the *affected Arm*, his cold ſweats ceaſed, and a *red colour* came into his face, the *palpitation of his Heart* left him, and he became *chearful*: I repeated the doſe, and cauſed *Fire-ſhovels* to be heated *five* or *ſix times* and held near the *ſcarified places*: hereupon he fell into a *great ſweat* all over (except *that hand*) the affected part became *hot*, and the ſcarified places bled abundance of *florid blood*, which I ſuffered to flow *without any impediment*: where the Teeth had faſtened there came forth as I took up the Plaiſter of *Treacle* two little pieces of *black fleſh* of the bigneſs of a *great pins head*; and finding him in this hopeful condition, I went to Church, directing that he ſhould not *ſleep* (to which he was much inclined) and that there ſhould be given him for food only ſome *Mace-beer*, with a little *Sage* and *Wormwood* boyled in it; and that he ſhould take every half hour two or three ſpoonfuls of *Angelica-water*, with ſome *ten drops* of *Mixtura ſimplex*, and continue his *ſweat*.

After *Sermon* I found him very chearful and well, no *pain* in his *Arm* but what ſeemed to proceed from the *Ligature*: whereupon I cauſed the Arm to be *unbound*, and waſhed with *Aqua vitæ*, and a new but gentle *Ligature* to be made *higher*, towards the Shoulder: and that he ſhould continue the *Cordial*, and the Sores were dreſſed with a mixture of *Venice treacle*

and

and *Baſilicon*, and pieces of *Lint* dipped therein were put into the *holes*, whence the *mortified fleſh* had come forth.

After *Dinner* I found the man in the ſame condition wherein I had left him, only the tumour had diffuſed it ſelf to the *Shoulder* and *Arm-pit*, and ſent pains as far as his *right Breaſt*: He had of himſelf *two Stools*, in which there was nothing obſervable: I directed the taking of his *Cordial*, and at *night half an ounce of Venice-treacle*.

But in a few hours after, there being no conſiderable evacuation of matter, there was applyed to the Scarifications a Plaiſter of *Burgundy-pitch* and *ſimple Melilote*, equally mixed: whereupon there iſſued forth in good quantities a yellow ichorous matter, the *efflux* whereof was continued by the application of *Baſilicon* and *Venice-treacle*: where the *Bite* was, the Sore grew *foul*, and thereupon *that* was dreſſed with *Baſilicon* and *Ægyptiacum* mixed: And *thus* the Cure was proſecuted to the end, according to the diſcretion of the Chirurgion: only during the firſt and ſecond day, the *violent tumour* of the *Finger*, *Hand* and *Arm* continuing (notwithſtanding the evacuation by *Scarification*, and diffuſing it ſelf) I did give way to the applying of a *Pultice* to the *Arm* (from the *Wriſt* to the *Elbow*) made up of *Oatmeal*, *green Betony* ſhred, and *Milk*, to which was added in the end a little *Oyl of Roſes*, *Oyl of Mallows*, *Sheeps Suet*, and *Oyle of Spike*: the which *Pultice* had been tryed in *Warwick* upon the *like caſe*, when all the *diſcretion* of a knowing *Chirurgeon* could not ſecure the *like tumour* from an *imminent Gangrene*, the *pain* alſo dilating it ſelf, as in this caſe: and to the *tumour* on the *back of his hand* was applyed *green Wormwood* ſhred, and heated as *hot* as could be indured.

Being called out of Town, at my return the next day I found the *tumour* and *pain* much abated, the Man ſo well as to ſit up, without any ill ſymptome, only he had made no *water* ſince the *Bite*: whereupon I appointed him to take once in two hours a drachm of *Sal Prunellæ* in his *Mace-ale*: and at the *firſt doſe* he made much *water*, but it was of ſo deep a *red*, that his Wife imagined it to be *blood*: the next was *high-coloured*, but on the next morning I found its colour to be natural: The *tumour* on Tueſday being almoſt gone, and the pains every where vaniſhing, I appointed the *Chirurgeon* to keep the *Scarifications* open, and to order them as common Sores, but to continue to the *bitten place* (both *holes* being run into one) the *Baſilicon* and *Treacle*: and being willing to preſerve my *Venice-treacle*, I appointed he ſhould take a *Clove* or *two* of *Garlick* every morning: which, howſoever it be commended in *this caſe*, did produce ſuch a pain in the *Sore*, that I was forced to alter it for ſome *Mithridate*, to be taken every *night* and *morning*: The ſame week he was ſo well as to take me (but with more caution) twenty Adders: and now, after three weeks time, the Sores are all well, and not any *tumour* remains, he being purged only, in the concluſion, with the decoction of *Damask-Roſes*.

Vide *Santem Ardoynum* de veneniis l. 6. c. 1. p. 335, 336 ex *Serapione*. Fortius juvamentum eſt in comeſtione alliorum, eſt enim curatio fortis valde.

But after a few dayes a *new* and *ſtrange Symptome* appeared, all his *Back*, *Breaſt* and *Belly* became ſpotted with *yellow ſpots* (of different Figures) reſembling exactly the *colour* and bigneſs of thoſe of the *Adder* which bit him: the reſt of his *skin* being *white*: and this continued from about the *fourth day* till now, with this diſcreqancy, that in proceſs of time from *yellow* they turned *brown*, and ſo by little and little diſappeared: ſome remains thereof are ſtill viſible; but he is perfectly *well*, (excepting a ſenſe of

of *benummedneſs* in *that* and the two ſubſequent *Fingers*, which ſeems to ſhoot from the head of the *radius* at his *Elbow*) and hath been on *mowing* ſeveral times; and is more *corpulent* than ever before: And that part of the Skin on his Back, Breaſt and Belly, which was ſo ſpotted, now peels off, and a whiter one ſucceeds in its place.

Having given you this account of the *Accident* and its *Cure*, I ſhall add ſome remarks thereupon.

It may perhaps be expected that I ſhould have applyed the *Head of the Viper* unto the *wounded place*, or ſome *ſliced Pigeons* or *Chickens*: but the *Accident* being proceeded ſo far, I durſt not adventure the *Patients life* upon ſuch *Remedies*, as if they proved *ineffectual* might fruſtrate the uſe of other more *generous Medicaments*.

The uſe of the heated *Fire-ſhovel* you ſee anſwer'd not thoſe praiſes which Mr. *R. B.* honours it with: as little doth Mr. *Charas* attribute thereunto, in the cure of that unfortunate Gentleman whom *He* recovered. I add, that the Remedy is older in *England* than Mr. *R. B.* and *his Friends*: I have read in ſundry ancient *Receipts* both *Printed* and *Manuſcript*, where for the *ſting* of a *Waſp*, *Hornet*, *Bee*, or *Adder*, the application a *Coulter* red hot, as near to the affected place as poſſible, is adviſed: and certainly the efficacy of the *heated Coulter* muſt be greater by reaſon of the *intenſeneſs of the heat*, then his *thin Knife* or *Spatula* can promiſe. Let us hence learn, that though the *Virtuoſi* do write, yet do not we improve alwayes in *uſeful Knowledge*: and if at any time the *Medicaments* of the *Ancients* do fail our *expectation*; thoſe of the *Moderns* (I wiſh they would not upbraid

Mr. *R. B's* uſefulneſs of Experimental Philoſophy, part. 2: p. 49, 50.
Mr. *Charas* of Vipers, c. 8.

us with old Remedies) lye under the *fame uncertainties.*

I did not *cauteriſe* the place that was wounded, becauſe it was ſo near the *ligaments* and *nerveous* parts; beſides, I had no great opinion of its ſucceſsfulneſs, for the venome having diffuſed it ſelf ſo far, could receive no ſtop by ſuch a *cautery*: I add, that when *Baccius* had ſo *cauteriſed* his Apothecary, who was bit in the Thumb, and that within half an hour after the *bite*, notwithſtanding *that*, he fell into moſt *virulent vomitings*, and other dangerous ſymptomes, and had in all likelihood died, had not he been carefully attended and followed with Antidotes forty dayes: Whatſoever is ſaid of ſuch *cauteriſing*, it *ſtrengthens* the part, hinders *afflux* of humours, and their *efflux* alſo, whereby the *venome* is continued in the Body; but 'tis our *intention* to evacuate it by the place *bitten*, as every man knows.

Andr. Baccius de venenis, pag. 16.

In the *Cure* it is obſervable, that the Man principally attributes his recovery to the *Viper-wine*; though I much doubt whether it would have been ſo effectual, had I not unceſſantly adminiſtred untohim the *Mixtura ſimpla*, or until I threw him into a *ſweat*. However you ſee that there is no ſuch abſolute neceſſity of the *Volatile Salt of Vipers*, that Mr *Charas* ſo much magnifies: my *Cure* was more *expedite* by much than his, though the Wound were more *dangerous*: and he acteth the *Virtuoſo*, not only in ſtealing that preparation of the *Salt of Vipers* from the candid and learned *Zwelfer*, and never mentioning him, but in *boaſting* ſo much of a Remedy which the *Galeniſts* may want without any prejudice, and which in many caſes I have found far inferiour to *Viper-wine*, and of no other effect than what you may expect from the

Vide *Zwelfer* in pharmacop. Auguſt. in notis ad Sal. Theriacal.

Volatile

Volatile Salt of Harts-horn fixed in the like manner.

As to the *Symptomes* which befell this man, moſt of them are taken notice of by ſeveral Authors, though all that are *bitten* do not ſuffer all the ſame *Accidents*: the *idioſyncraſy* and *anger* in the *Adder*, and the *divers conſtitutions* and *apprehenſions* of the Patients creating ſuch *variety of Accidents*: but in many things did our *caſe differ* from what is related by *any one Phyſician*, as you may ſee in *Sennertus*, and *Santes Ardoynus*, *Paræus*, and Doctor *Read*. The riſing of the *black Puſtules*, and the *ſtoppage of Urine* ſeems to be deſigned by *Sennertus* and *Santes Ardoynus* by their *Difficultas Urinæ*. But how far it was from any *inflammation* (which ſome ſpeak of) you may judge by my *Relation*, which favoureth the Opinion of *Galen*, *Meſve*, and *Aaron*, that the *poyſon* of Vipers is *cold*.

Santes Ardoyn. de venenis, lib. 6. c. 1.

Upon his ſucking of the *Wound*, and the evil conſequents thereof, it is obſervable how unſafe that direction of *C. Celſus* (*Veſalius*, *Forreſtus* and others) is, who adviſe that a *man ſhould ſuck the bitten place*. In *Amatus Luſitanus* you will find a relation of one who *dyed* by ſucking of the place bitten by a *Viper*: The ſame is avowed by *Matthiolus*, as *Paræus* recordeth the *Story* out of him, and inſtanceth further in a *Patient* of his own, who was much endangered by by *ſucking*, upon the bite of an *Adder*. It is alſo diſliked by *Epiphanius Ferdinandus*.

C. Celſus medic. l. 5. c. 27. *Veſal.* chirurg. mag. l. 3. c. 14. *Amat Luſit.* cent 3 cur. 14 *Ambr. Paræus* chirurg. l. 20. c. 16, 23. *Epiphan. Ferdinand.* caſ. medic. 81.

I forgot to tell you one *Accident*, and that was on the *third day*, when he was taken with ſo great a pain in the bottom of his Belly towards the *Perinæum*, that he (to uſe his own expreſſions) ſeemed to

to be torn in pieces thereabouts: of which *Symptome* I have not read any thing, unleſs it be that amongſt the conſequents of ſuch *Bites* the great *Paræus* doth ſay, that *Torſions in the Bowels do by fits afflict the Patient.* But this happened after that he *made water* freely, and without any *pain* but what he felt by way of debility in the *Muſcles* ſubſervient to that evacuation.

Tormina ex intervallis exeruciant. *Paræus* chirurg. l. 20. c. 16.

I might proſecute the Diſcourſe ſo as to diſcourſe about the *venome* of the *Adder*, wherein it conſiſts: but much hath been ſaid on that *Point* by *Zwelfer* (out of whom *Charas* doth ſteal much of his Book) and others.

That a *Viper* is not poyſon, when *drowned* and *putrified* (if I may ſo call it) in Wine, appears by the Relations of *Galen*: And *Proſper Alpinus* ſaith the ſame of thoſe *Snakes* which the *Italians* call *Anzas*: and daily experience ſheweth the truth thereof; nor do I believe that any ever reaped any inconvence from *Viper-wine* made in that manner, except it were *by accident*, though for ſome Reaſons I do not follow *that way*. I have drunk of the *Wine* made ſo, even when I have *angred* the *Adder* before I put it in. I have taſted the *Gall* and that *yellow juyce* which lyes about the *Teeth*, without any hurt: the *yellow juyce* did to me ſeem *inſipid*, or a little *ſweetiſh*, if it might be ſaid to have any *taſte*: Mr. *Charas* ſayes he found the taſte of a *Salvia* or Spittle ſufficiently flat, and approaching enough to the taſte of *Oyl of ſweet Almonds*, in the *yellow liquor* of the Gums. Herewith agree *Amatus Luſitanus*: though *Zacchias* ſay that his Apothecary taſting thereof found it to be *Saporis inſipidi cum ponticitate*: And it ſeems to me indubitable, that the *venome* of the Animal proceeds from its *indignation*:

Galen. de ſimpl. l. 10. *Proſper Alpin.* med. meth. l. 4 c. 4.

Mr. *Charas* of Vipers, ſect 8.

Zacchias qu. medico leg. l. 2. tit. 2. qu. 7. ſect. 10.

dignation: (which opinion *Poterius*, *Helmont*, and *Zwelfer* propoſed before *Charas*) and that there is a *virulency* in the Wound appears by the *evil accidents* upon *ſucking* thereof: Yet muſt I note, that *Veſlingius* ſaith of the *Teeth*, that the *poyſon* doth *formally* lodge there, and that the *Teeth* being taken and rubbed upon any Weapon do give it an *impoyſoning quality*, if any be wounded with it.

But I ſhall detain you no longer, though I could ſhew ſome defaults in *Charas*, and illuſtrate the Hiſtory of Adders, by Obſervations upon the ſeveral Animals into which I have ſuffered the Skins and Livers to putrifie: But I ſhall conclude with the profeſſion of being,

Warwick June 12: 1671

SIR,

Your moſt humble Servant

Henry Stubbe.

FINIS

A PREFACE To The READER.

ABout Christmas, *I was earnestly pressed by some Persons of* Great Learning, *and of no* Common Repute, *to make some Reply unto*----- G. Thomson; *not only to chastise his Insolence towards* me, *(for which he had made* me Sufficient Reparation *by his* Postscript *against* D. M.) *but to punish him for the Indignities he had put upon my* Faculty. *Having finished that Treatise, I was importuned to write something about* Phlebotomy, *since* he *had made such a clamour about it against the* Colledge, *and that this* Point *had not been handled by the Adversaries of* M.N. *how necessary soever he had rendered it by the Publication of* Medela Medicine. *The Request seemed very* Just, *but how I should be able to perform the Undertaking to* my own Satisfaction, *or that of others, I knew not: For* this Age *seemed so to have charged the* Methods of Ratiocination, *& so altered the Principles of* Physick *and* Philosophy, *that for a man to argue as our* best Writers *do, were to subject the Case to all manner of* Scorn *and* Contempt: *And how I should reduce the* Phænomena *which are* undeniably *consequential to* Plebotomy, *under one* plausible *Hypothesis, I did not well comprehend: For I had no* Collections *upon the* Subject *(indeed I never made any in my life upon any, but remit all to the strength of my* Memory, *and that now declines) nor had I ever framed to my self any* Idea *of things that might* accomplish *me thereunto: Though I have for sundry Years been contriving some*

Materials *in order to it: And had* ſeriouſly *gone about it, but that my Contests with the* Virtuoſi *have diverted me, and the* Troubles *and* Dangers *they have ever ſince alarm'd me with (even to the hazard of my* Life, *and* Fortunes) *made me unwilling to* begin *what I ſhould never have opportunity to* conclude. *However, ſince* they *were pleaſed to have ſome* Opinion *of* my Abilities, *and promiſed to acquieſce in what I could do under ſo* little Leyſure, *as my Practice affords me, and ſo great* Diſadvantages *as my Diſfurniſhments created me; I did ſubmit to the* Task. *And thou haſt here, Reader, what my* Thoughts *could* Recollect *and* Digeſt *in the Space of a few Weeks, and thoſe Interrupted with* other buſineſſes, *amidſt ſo ſlender a* Library *as mine is; the* Defects *whereof I could not ſupply any wayes, many of the* Books *which I would have made uſe of (and which I loſt by the late* Fire) *being not to be found in any* Library, *or bought in* England: *So much decayed is the* Trade of Book-ſelling, *together with the preſent* Declination of all Learning. *If,* **to have refuted my Adverſaries,** *be all that thou expecteſt, I have done it* perſpicuouſly, *and* fully: *If thou look'ſt for a* compleat Hypotheſis *in defence of the* Phyſicians Practice, *I acknowledg the preſent* Treatiſe *to be* deficient. *For, as to the* **Nature of the Blood,** *though I have made many* Eſſays *in reference to the diſcovery* thereof, *yet one* Inquiry *hath ſo multiplied others, and there is ſuch a* variation *thereof not only in* Individuals, *but according to the* Seaſons and Seaſonableneſs of the Years; *that I am better able to* convince others of their Errours, *than to* demonſtrate other Principles: *Something I have done in order* thereunto; *and ſome things I could have* further proſecuted, *but* would not: *For I have no mind to inſtruct others* too far: *Let them ſtudy (or, to ſpeak in the Dialect of my* Enemies, *let them Read* Index's) *as I have done: To what purpoſe ſhould I* add ſtrength to thoſe Fetters *which are preparing for my* **Faculty?** *Or prejudice* Learning, *by qualifying a ſort of* Ignorant, Idle, Talkative-Inſolents, *to maintain* Converſation *in any Company! If I could ſee that the* Parliament *would, in purſuance of the* Prudent Laws *made by our* Anceſtors, *regulate our* Faculty *according to* Real Policy, *and the* Precedents *of the* beſt Governments, *I would not only Contribute all I could to the* publique Utility, *but propoſe* ſuch a Deſigne, *as ſhould add more to the* Advancement of Uſeful Knowledg, *and that* Learning, *which is neceſſary to the Support of this* Monarchy, *as no Age did ever parallel; which ſhould be* **Facile, Practicable;** *and the Effects thereof, ſhould be more* **Viſible** *in* **three Years,** *than* **theirs** *have been, who boaſt that* they have done more in **ſix Years,**

Years, than the Aristotelians in more than thrice so many Centuries. *But let* these men *have* their Desires; *Let them be loaded* (*according to their own Overtures*) *with all that contempt which is usually the Reward of vain and unprofitable Professors.* *Plus ultra* p. 8.

I cannot but look upon it as a singular Act of Providence, *that I should fix upon the present Title of* this Book; *and direct my* Censure *against the Lord* Bacon, *and those that pretend to be* Followers of Him *in Philosophy*; *seeing that it hath happened so, as that* Ecebolius Glanvil *hath made use of that* Great Name, *to excuse his* Errours *and* Insolence; *and thinks it a sufficient Apology*, If he can shew that the substance of his most Obnoxious Periods and Passages, are to be found largely, and often insisted on by so Great, Learned, and Wise a man, as my Lord Bacon. *Which* defence, *though it be* no other *than he might* make, *who should tender us* a wrong Account of the Sweating-Sickness; *or* avowe *that* Coffi *were* Narcotical; *or obtrude upon us a* thousand Falsities *out of the* Philosophical *Writings of that* Lord, *and* Lawyer; *yet doth it seem requisite that I should say something more in reference to* his Authority, *lest, what imported little* in the Age when he lived, *should be* prejudicial, *and* destructive *to that which* succeeds. *I will not deny that he was a man of* good Literature, *and* great Eloquence, *accompanied with a* popular, *and* florid way of Expressing himself: *By Profession, he was a* Lawyer, *and the principal part of* his Studies *were bent* that way; *and although* there *in he were surpassed by* others, *yet 'tis* there *that his* Credit *must seem most* Authentick, *or no where: We acknowledg no* Chancellours of Philosophy, Philology, Medicine, &c. *Nor do* Artists *suffer themselves to be* over-swayed *by the judgments of men, that ar e either totally unacquainted, or have but* transitorily, *and* superficially *looked into the* Subjects they treat of. *No* Law *ever made him* our Dictator, *nor is there any* Reason *that concludes him* Infallible: *Nay, it is manifest that he was frequently* deceived. *And, since the* Gardiners *have* protested against him, *and that* justly: *Since the* Chymists, *and the* Mathematicians *disclaim him: Why may not a* Physician *refuse to be tried by* Him? *Not that* this *doth introduce a Comparison of Abilities* in general, *but of knowledg* in particular Cases; *and the World hath always allowed, that* A Person, otherwise Ignorant, even a Fool, may know more in his own House, than a Wise man doth in another's. *Besides, I hope* my Adversaries *will permit me to retort upon the* Lord Bacon, *what they* (*though most injuriously*) *urge against* Aristotle; In his Letter to *M.S.* p. 8.

See M. *Austens* Observations on his *Natural History.*

Kotle: *And to propose it to their judgment,* "Whether 'twas like-
See the Letter against *Aristotle* at the end of *Scepsis Scientifica*, p. 90.
"ly that my *Lord Bacon* was so far beyond other Scholars in his "*Intellectuals*, as these latter Times have presumed; when *He* "came so far short of most of them in *his Morals*? *I* believe "there is a near Connexion between *Truth* and *Goodness*, and "there's a *Taste* in the Soul, whereby it relisheth *Truth*, as the "Palate *Meats*; which sense and gusto *vice* depraves and viti-"ates. So that, though *Wit* may make the vicious *cunning Sophisters*, and *subtile Atheists*; *I* doubt, seldom the most *exercised Philosophers*.

I shall not prove this Charge *by alledging Writers who were* not Born *till above* many Centuries; *Nay*, above a thousand Years *after: Such is* Suidas, (*who is* very Fabulous) *and S.* Jerome. *Nor impose upon my Reader* Authors *who write quite contrary to what is to be averred*; *as* (a) Aristocles, *and* Arrian: *Nor represent as* befitting Witnesses, *a company of* Buffoons, *and* notorious Lyers, *such was* Timæus: *But refer you to the* Common Opinion *about Passages within the* Memory of man, *and to his* Accusations in Parliament (*which are* Recorded): *and since* He *durst not stand the* Trial, *but cast himself upon the* Mercy of the House; *his condition admits of* **no Vindication**; *and* I *again retort the Words of* Ecebolius *upon him*: "Thus then you see an ill Character of the "*Lord* Bacon's *manners* from *dis-interested Authorities*; on con-"sideration of which, 'tis to me matter of some Wonder, that the "Memory of the *vitious* should be so *blessed*, and his Authority "so Irreproveable. —— *But to pass by* this Argument, *which I confess to have been* Weak, *when first urged*; *but is* Strong, *when it is* retorted: *I do say, that the* Credit of no man is such, as ought to sway us against manifest Experience; *and if* Aristotle *teach me that what is most* **Rationally insisted on**, *if it be* **Sensually refuted**, *cannot be adhered unto without an* Imbecillity of Judgment: *I am to be pardoned, if I submit not to the* **Inartificial Argument** *of my Lord* Bacon's *Authority, when his Assertion is* **apparently False**: *And so it is in more Cases than that of the* **Sweating-Sickness**. *So it is in that Saying of his* (*so pressed by* Ecebolius) *that* he never names any ancient Author, but to Confute, or Reprove him: *For he cites an* hundred *Authors* in his Works *by way of* Illustration; *makes an* Honourable *mention of* Hippocrates, *and* **no where** *reproveth him*. *Not to relate the* Altar *and* Inscription *which he erected to* Plato; *and other Instances that might be made of his mentioning* Ancient Writers *in places where he no way* disparageth them, *nor Animadverts* upon them. *So it is in the places*

(a) See the Words of *Aristocles* in *Casaubon*'s Notes upon the fifth Book of *Diogenes Laertius*: In the Edition of *Menagius*, p. 41. 42.

(b) See *Menagius*'s Notes on *Laertius*, lib. 5. p. 110. and *Jonsius*, l. 2. c. 2. p. 125.

Uti supra, p. 91.

Uti supra, p. 84.

Aristotel. polit. l. 7. c. 4.

places alledged now by Ecebolius. *For if it be evident,* Aristotle *did resolve his Philosophy* finally *into* **Sense**: *If it be evident, that* Aristotle *did propose, and pursue an* **History of Nature** *(which was carried on by his* Successors, *as* Theophrastus, Erasistratus, Herophilus, *and others) and esteemed no* Universal Propositions *to be* true, *but what are* verified in every Individual (*which is the* Foundation *of all he Writes about the* Art of Reasoning:) *If it be evident that the* Glorious Body of Physick *which we now possess, was principally erected upon* his Physiology *and* Deductions (*which he that Reads* Galen, Mercatus, *or* Fernelius, *may see*) *and our* Practice *is not only regulated* happily *thereby as to* known Diseases, *but directed in order to the Discovery of* New Medicaments, *and the* Cure of New Diseases, *(not to mention the* Natural *Improvements): If these things are* evident (*which* **no Scholar can deny**) *what* Truth *can there be in* those Citations *or* Aphorisms *of my Lord* Bacon, *so much enforced against me by* Ecebolius *in his late* Letter? *What doth* he *bring but fresh* Testimonies *of his intolerable* Impudence *and* Ignorance, *and create new* **Umbrages** *upon that* Lord, *when he recites an* egregious mistake *of His?* "Si---- "id minime eventurum fuisset, quod per annos bis mille jam fieri "videmus: Nempe ut Scientiæ **suis hæreant vestigiis**, & in **eo-"dem** fere **Statu** maneant, neq; **augmentum** aliquod memora-"bile sumserunt; quin potius **in primo Authore** maxime floru-"rint, *&* **deinceps declinaverint**. *This being said of the* **Sciences** *in general, is an* **Insufferable Untruth**: *For who knows not the large* Improvements *that the* Mathematicks *received by* **Euclid** (*who lived after* Aristotle) *and others, Who had then advanced every part of the* pure *and* mixt Mathematicks *long before the* Verulamian *Philosopher writ* this? *Who knows not, how* Herbary *had been improved by* Theophrastus, Dioscorides, *the* Arabians, *and other* Peripateticks, *in like manner? Who can deny that* Physick (*in every part of it*) *and particularly* Anatomy *was improved by* Erasistratus, Herophilus, Galen, Vesalius, Fallopius, *&c. before the Lord* Bacon *ever sucked? And what* accessionalls *had* Chymistry *received by the cultivation of the* Aristotelians, *before that the* **House of Solomon** *was dreamed of, or the* **New Atlantis** *discovered? Let us therefore not be concluded by the* **Aphorisms** *of this* **Lord**: *Let us not take his* Assertions *for* Legitimate Proofs: *Let* these *insulse* Adherents *of his buy some Salt, and make use of more than* **one Grain** *when they Read* **Him**: *And let us believe better of the* Ancients *than that their* Physiology *advanced* **nothing**; *or that Their* **Methods of Science** are so unfruitful, as

P. 9. 10.

Nov. Organ. Aphor. v. 74.

in so many Centuries not to have brought the World so much **Practical beneficial Knowledg**, *as would help towards the* **Cure of a Cut-Finger.** *Because the* petulancy *of my* Adversary *doth enforce me thereunto, I do* **declare**, *that the Lord* Bacon *did steal the* principal *part of his* **Novum Organum** *out of* **Aristotle**, *and only disguised* his Suggestions *in a new* Mode *and* Dress; *As he likewise borrowed the best* Rudiments *of his* **Advancement of Learning** *from* **Ludovicus Vives** de causis corruptarum Artium; *What was his* House of Solomon, *but the* Ectype *or* Transcript *of the* Peripateticks *establishment at* Alexandria *in the* Musæum *of* Ptolemæus Layides, *and* Demetrius Phalereus? *'Tis by* his great Example *that the* Baconical Philosophers *are such* Plagiaries, *and* Relators of false and defective Experiments; Contemners of the Ancients, *and* opinionated concerning themselves. *The only judgment I can make of my Lord* Bacon's *Actings, is, that being so* Flagitious, *and so* Ignominiously degraded: *He determined to redeem the* **Infamy** *of his* past Life *by amusing the World with* **New Projects**; *and to gain a* **Chancellourship** *in* Literature, *when he was excluded from that on the* Bench: *And to revenge himself of the* Nation *whom* He *had exasperated, by diffusing* Heresies in Philosophy, *and creating in the Breasts of the* English *such a desire of* Novelty, *as rose up to a Contempt of the Ancient Ecclesiastical and* Civil Jurisdiction, *and the* Old Government, *as well as* Governours *of the Realm: And the* Root *of all our* present Distractions *was planted by* **His Hand.**

The mention of Ecebolius Glanvill *seems to give me just occasion to digress* here, *and to give my* Reader *some Account of his late* virulent *Books against* Me. *I gave him no Occasion for to Write in* **that manner**; *nor did I Transgress the* Act of Indemnity and Oblivion *to depreciate the* Virtuosi, *though* they *were much more* obnoxious *than I: Whereas* He, *to accomplish a* Revenge, *doth begin with the* Breach of Divine and Humane Laws: *The* Penalty *in the* Act of Oblivion *determined after* three Years; *but the* Command *is no less than* **Utter Oblivion**: *So run the Words of*
P. 4. *the* **Act**. *The* Rector *of* Bathe *tells me that,* "If I think **so** in earnest, the **Law** is open; I may take my Course.—— *But this* **Divine** *might have known, that there are more* Injuries, *more* Sins, *than the* Temporal Laws *prescribe a* Punishment *for: And that the* Obligation *of the* Law *doth not depend upon it's having a* Penalty *annexed. The* Commandment *of the* Sabbath *was given, and the* Violation *thereof, a* Sin; *and he that had* gathered Sticks

thereupon

thereupon was apprehended, and put into Ward, till God *should determine* how he should be punished. *Is not this a fit Person to be entrusted with the* **Cure of Souls**! *But to pass by* **His Impiety**, *and proceed to his* Indiscretion; *Is it not* extraordinary, *that He should upbraid me with adhearing to* my Patron *out of* **Gratitude**, *when He complied with the* Same Parties *out of* **Interest**, *and to advantage* Himself? *I could trace the* Saint *from* Excester-*Colledg to Mr.* Rouse's; *and the L.—— W.'s, and from the* Rota *of Mr.* Harrington, *unto the Lord* Mayor's *Pulpit, when he Preached the Sermon about* **Catholick Charity**. *What* Prayers, *what* Graces *he uttered in* those Families? *'tis easie to conjecture that they transcended a* Negative Loyalty. *But as for his* Abettours, *I have seen one of them* Sneaking *at Sir* H. V.'s. *He was* Tutour *to his* Nephew, *and* **Intelligencer** *during all the late* Usurpations. *He saith, He blames me not for* Writing *against Doctor* J. W. *but for treating him so* opprobriously. *I answer, that I gave him such Language as his* Ignorance (*in those Questions*) *did deserve: And I refer my self to all the* Royallists, *if* any Language *could be* Malicious *and* Scurrilous, *which was used against the* Sub-Scribe *to the Tribe of* Adoniram, *who had been an* Active Preacher *in the first War, and* Decyphered (*besides others, to the Ruine of many Loyal Persons*) *the* King's Cabinet *taken at* Naseby, *and as a* Monument *of his Noble Performances in behalf of the* **Cause**, *deposited the* Original, *with the* Decyphering, *in the* Publique Library *at* Oxford? *As for Mr.* R. B. *who writ the* Holy Common-Wealth, *and the* Key for Catholicks: *He having* reviled *on, and* belyed *my* Patron, (*as he did also the* Church *of* England) *and refuted his* Notorious Lyes, *and discovered the* Ignorance *of a Man who* (*till then*) *had in the Nation some Esteem for* Learning; *If this was not a* considerable Service *to the* **King** *and* **Episcopacy**, *I understand nothing: And though I did not* intend it as such (*which I yield*) *yet they are so* generous *and* just, *as to distinguish betwixt those who* (*though* Undesignedly) *served them, and those that did all they could to* **Destroy them**. *The* Key for Catholicks *is Unrepented of; and I recommend* that Book *to the Perusal of the* Episcoparians, *and let* them *judg whether* He that writ it, *or* He that opposed it (*though in defence of Sir.* H. V.) *and pleaded earnestly for an* Indulgence towards them in the Liturgical way, *deserved best at* their Hands? * *I say, I could not abuse Mr.* R. B. *in those* Prefatory Discourse against me, came out *both together*, and were sent to me So that I may be excused for *mixing* the *Elogies* bestowed upon Mr. *R. B.*

Numbers 15. 32, 33, 34.

P. 56.

* Take notice that the *Pia Philosophia*, and the *Preface* Bound together.

Pages:

Dayes: *And I cast my self upon the* Royallists *for my* Judges; *What say yee* Gentlemen? *Was* He the only Man that spoke Sense in the Age of Non-sense? *Was He* Reverend, Learned, *and* Ingenious? *But, What is it that* Ecebolius *doth purpose to* himself? *Would* He *overthrow* all our Laws *as well as the* Act of Oblivion? *Why doth* He *now caresse* this Party *so highly! He adds, That* 'tis to be hoped there are not any more Criminal than
P. 5. I on this side *Charing-Cross, Tyburn,* or *Tower-Hill. Is not this all one, as to bid* Derrick *take the* Authour *and* Approver of the Pindarick Ode! *Is it not to* Sentence unto Death *the* Actours of the first War (*'tis well* his Patron *Mr.* Rouse *is dead*) *the* Trooping *Divines, the* Decipherer of his Majestie's Letters, *the Followers of* Oliver, *and King* Dick, *not to mention others? The truth is,* O most generous and candid Royallists, *being a* Poor *Boy at* Westminster-School (*as my Reverend Master, Dr.* Busby *can tell you*) *aged about* Ten years old (*there are but* few years *difference betwixt* my Age *and that of* Ecebolius) *Sir* H. V. *casually coming to* School *with Dr.* Osbolston, *did take a kindness to* me; *and frequently relieved me with* Money, *preferred me to be a* King's Scholar *first, and afterwards to* Oxford: *At such times as I had convenience, I had the liberty to resort to* his House, *and fill that* Belly, *which* otherwise, *had* no Sustenance *but what* one Penny *could purchase for my* Dinner: *I had not any* Breakfast, *except I got it by making some bodies* Exercise. *My* Mother *had two of us to maintain by her* Needle *at* London, *after* we had Travelled on Foot *from* Leverpool *thither. I was not a little obliged to the* Charity *of my good* Master, *for Money to buy* Books, *and* Cloathes, *besides that* He *gave me my* Schooling. *I was sent to* Oxford *after the late* King *was* Beheaded, *being aged about* Seventeen, *and very* Little of Stature. *The* Quarrels, *and* Animosities *growing high betwixt the* Presbyterians *and Sir* H. V's. *Friends, I sided with* him. *Was it,* Generous Sirs, *any* Faction *in me, or the Testimony of a* Factious Spirit *to oppose the* Presbyterians? *or, was it a* Crime then *to serve my* Patron? *Twice I with* Tears *implored the Protection of Sir* H. V. *and* C. L. *to save* Westminster-School (*that great and known* Seminary *of* Royallists) *from that* Destruction *which the* Presbyterians, *and* Independents *menaced it with: And my* Master *shall witnesse how I interceded for* Him. *'Twas I brought the* Engagement *down to* Oxford (*though I took it not; being an* Under-Graduate) *and having got Doctor* S. F. *and Doctor* R. *to be turned out,* I saved the remains of the Cavaliers *in* Christ-Church, *and* Queens Colledg, *and gave*

them

them *an opportunity to* live ſecurely, *and Educate* others *in* their Principles. *All the retribution I could make to my* generous Patron, *for gratifying a* poor Stripling, *and permitting* him *to be* Grateful, *was, To promiſe,* if ever I were able, *to ſerve* him *effectually. Which I did (maugre the* Power *and* Greatneſs *of the* Preſbyterians) *in oppoſing Doctor* J. W. *who was* then *the* Glory *and* Pride *of that Party. Afterwards, to terrifie the* **Preſbyterians,** *and make them more* Complacential, *I writ thoſe ſo* Invidious Queries; *yet withall, proteſted that they* **contain no Tenets of mine,** *(for I knew* they *were not* defenſible *againſt the* **Learned** *and* **Judicious** Epiſcoparians: *Though they had* force *and* addreſs *enough againſt the* more Ignorant *Presbyterians) but were* writ *to excuſe thoſe who had made thoſe to be* their Aſſertions, *which were* **my Doubts.** *This I declared in the* Preface: *yet would not* Ecebolius *take notice* thereof, *to the end I might ſeem more* **Odious,** *and that I might be upbraided with* **contradicting my ſelf:** *Which I am very glad* I doe: *And that my* Principles *(if thoſe be* them *) are as much* changed *as my* Hair. *In fine, (for I would not be tedious about theſe* Impertinences) *whatſoever I writ, was againſt the* **Preſbyterian Clergy,** *the* **Preſbyterian Univerſities,** *the* Uſurpations *of* **Oliver** *and* **Richard.** *Againſt his* Majeſty, *or his* Father, *or the Church of* England, *there is ſo little* expreſly, *that leſs could not be ſaid by* **One of that ſide:** *And* to have had any one ſo Active in thoſe times, and to do what I did, *'tis not to be doubted but* his Majeſty *would have* diſpenſed *with it, and acknowledged my* **Serviceableneſs.** *Could I but aſſume the* Impudence *of thoſe* **Cromwellians** *and* **Renegadoes,** *and tell you* Renegadoes, *I did* all this *for to* **facilitate the Kings returne,** *how* plauſible *would it ſeem? But though I knew the* tendency *thereof, I ſcorn to ſay,* **This was my Deſigne:** *I ſay,* **I ſerved my Patron** *therein; and bore no* **Malice** *to the* **Royaliſts,** *who were* then *Ejected out of the* Univerſities, *& all* Churches. *Had I not contributed to* thoſe Imbroylments, *perhaps* things had not been in the ſame condition as they are in now; *And* Ecebolius *(as well as others my* moſt bitter *Adverſaries) had been* **Praying,** *and* **Preaching,** *as before: I prepared thoſe* **Algerines** *to* repent, *and to* Conforme; *and* **you** *may, if* you *pleaſe, put the* Latitudinarians *(upon whom neither* Religion, Morality, *or* Generoſity *have any Obligation) into a condition to betray* **You** *again. In the* mean time, *I beſeech* you, Generous Epiſcoparians, *not to make your ſelves* **Inſtruments for their Rage,** *nor ſuffer them by your* **Means** *to revenge upon* me *the Affronts done to the* **Preſbyteri-**

ans, **Oliver,** *and* **Richard Cromwell:** *Think not that* **they** *love* you, *or the* Government: *Nothing is dear to* them *but* themſelves: *Nor are they ſwayed by any thing but* Intereſt *and* Ambition: *They attend to* Opportunities, *not* Principles; *and value not* Right, *but* Fortune *and* Power. *If* they *make it a* **Malignity of Temper** *in* me, *to have reviled* (**in thoſe dayes**) *Doctor* J. W. *and Mr.* R. B. *If it be* **Hypocriſie** *to defend the* Monarchy, Religion, *and* Univerſities *of this Nation:* **What Bottom do you ſtand on?** *Or,* **How do you expect to be ſerved?** *Mr.* R. B. *in his* Saints everlaſting Reſt, (*not to mention his* Key for Catholicks) *hath transferred Mr.* Pym, *and* Hambden *into* Heaven: *And* Ecebolius *tells you, that* 'tis *to be hoped, that on this ſide* Tyburne *there is not* **one whoſe Crimes have tranſcended mine;** *Thus* 'tis *made a* **more hainous Fault** *to have oppoſed the* **Rigid Presbyterians,** Oliver, *and* Richard Cromwell, *than to have acted in the* **First War,** *to have* **brought the late King to the Block,** *or to have* **cut off his Head.** *Sir* H. V. *was no* Regicide: *I was not concerned* in all thoſe times: *I never made any* Application *or* Poem *to the Renowned Prince* **Oliver,** *nor inſinuated my ſelf into the Court of* **Him,** *or* **his Son.** *When it pleaſed Almighty God to reſtore* ſo happily *his Majeſty* (*though I bluſh not to ſay, that, had occaſion been offered me* **then,** *to have ſerved my* Patron *with my* Life *againſt* **Him**; *I would have done it*) *I made* early *and* voluntary *Applications to the* Biſhop *of* **Winton** (*that now is*), *for his* Protection *in my* Retirement, *aſſuring his* Lordſhip *of an inviolate* **Paſſive Obedience,** *which was all I* could *or* would *pay till the* **Covenant** *were renounced: He hath it* under my Hand, *and* higher ſtreins *than* theſe. *I need not revite either the* Kindneſſes *of that* Reverend Prelate *unto me, or his* Majeſties Favours *at my going to* Jamaica: *'Tis enough to ſay, that* **I was not deceived in the Opinion I always had concerning the Generoſity of the Royaliſts.** *When the* Reſtoration of the Biſhops, *and of the* Church of England *had* **revived** *me*; *at the* firſt motion *of the aforeſaid* Right Reverend Father in God, *and at the* firſt opportunity *I ever had in my Life, I received* **Confirmation** *publickly at* **his Hands:** *And immediately took occaſion to publiſh a Treatiſe of* Bartholomæus Caſa *paraphraſtically tranſlated: And in the* Dedication *thereof, to that Loyal Gentleman Sir* Ch. Littleton *declare*; "*I have, at length, removed all the* "Umbrages *I ever lay under: I have* joyned *my ſelf to the* Church "*of* England; *not only upon the account of it's being* publiquely im-"poſed (*which, in things* Indifferent, *is no* ſmall *conſideration:*

as

" as I learned from the Scottish Transactions at Perth) but because " it is the least defining, and consequently the most comprehensive, " and fitting to be National: Wherein any unprejudiced Person " (not resolved to mistake particular mens Actions or Opinions, " for Church-Principles and Errours) may observe all those Cir- " cumstances to continue in order to the promotion of Sober Piety, " which the Angels proclaimed at the Birth of the World's Savi- " our, viz. Glory to God in the highest, Peace on Earth, and " Good will towards men. In fine, it bears the Impress of what " is Ancient and Apostolick, as well as True: I always had a Re- " verence for the Primitive Christians, and it is with a Sincerity " not unbecoming them, that I thus declare my self. —— Thus did He unrequested declare himself, most Generous and Candid Episcoparians, who pleaded for **your Toleration**, when **you** were in distress, and when his Adversaries were Praying, Preaching, and Acting against you, and Mr. R. B. writ his Key for Catholicks: Thus He declared three Years and more, before Ecebolius published his Sermon upon the **Kings Murder**: Thus He declared, without any Hope of Advancement, or other ends, than to live as became a **Peaceable** and **Quiet Subject**, and Son of the Church. If after all this; if after the taking of the Oaths of Allegiance and Supremacy, and the having done all that the King and Church required, I have not yielded you sufficient satisfaction; pardon me, if I say I understand not **what is necessary to the Civil, and Ecclesiastical Peace**; and you do exceed the Precedents of any History, or any Policy, which I am acquainted with.

Have my Adversaries? hath Mr. *R. B.* declared *thus much* in Print yet?

I think this Discourse to be the most pertinent Answer I could give to all the Railing of my Adversaries; without descending to Particulars, the Prosecution whereof (and even Repetition) would seem tedious, and in these times unseasonable. I now descend to other Passages in Ecebolius. He said, my Head was **Red-hot**. By the difference of the Character, who would not imagine that he reflected on me as **Red-Headed**? He hath now varied the Letter, and saith **Red hot**; is not this the Sophistication of a gross Lye? He adds another: " If I had said, your Head was **Red**, I had " not been such a Lyer neither; it was a direct **Carrot**, last time I " saw it. —— It never was of other Colour than of the pale Hungary Gold; and in time altered to a Light Brown: 'Twas such as the Ancients did ascribe to Apollo and Mercury (though very thin) and as the Wisest Nations have, and do desire to imitate by Artifice. —— But his words were, **his Head** is **Red-hot**. Which is

P. 28.

a Lye. *And if it were not,* so much *to be said for* that Colour, *that I should not be ashamed* thereof: *Besides that some of the* R. S. *must suffer in the* contumely, *if it be one: Yet I neither take* that, *or the other of* Bald-Pate, *to carry any thing of* Ignominy *in* them. *He had also said,* "*In testimony of his great* Love *and* Devotion "*to the* King, *he thus subscribes the Title of his rare Book of* Cho-"colata, *by* Henry Stubs, Physician *to his* Majesty *in the* Il-"land *of* Jamaica. Now (*no doubt*) *he is Physician to his* Ma-"jesty *too in the Town of* Warwick, *and He intends to be* Physici-"an *to his* Majesty *in the* City *of* London. —— *I could not but look upon* this *as a* Lying Insinuation, *as if I had dared to* Usurp *that* Character, *which indeed his* Majesty *did* Honour *me with: And* who would not, *as the words import, conclude, that either* I was not *Physician to* his Majesty *at* Jamaica, *or* no doubt *am now Physician to his* Majesty *at* Warwick? *which for any man else to say* were a Lye; *but in* Ecebolius *and* Vertuoso *'tis only* Raillery. *Such* Raillery *it is when he speaks of my* Spitting fire *in a* Feavour, *and* Reading *by the* Light *of his* Spittle. *Whereas I neither had any* Feavour *these many Years, nor did ever such a* Phænomenon *befall me in* one. *Several Months after I had been sick of the* Colick Bilious (*which neither is a* Feaver, *nor* was *attended* with any) *upon the taking of a certain* Course of Physick, *and Indulging my self in the taking of* Snuffe (*I do not take it for a contumely, to be told of my* Snuffe-Box) *I observed that sometimes* in the dark, *as I blew my* Nose, *a stream of* Light *from my* Eyes *and* Nostrils *would issue out, and accompany the* Pituita, *even to the Ground; so that I could discover a* Straw *or* Pinn. *But what is* all this *to a* Feaver-Fire, *and* Reading *by it? If* this *be not a* Lye, *'tis not more certain, that* Truth is not to be spoken at all times, *than that in* this manner, *it ought never to be spoke by a* Divine; *though* Ecebolius *may say any thing. All the* Odious Stories *in him and* D. M. *are* thus *disguised: I imparted this odde* Phæno-menon de luce animalium *to one of the* R. S. *desiring to know his judgment,* If it *might be the effect of the* Physick, *or such* Snuffe *as I* then *took. From* him *'tis* now *transmitted to* Ecebolius: *As many others (whom I know) contributed their* Symbols *to this* Farce, *as well as that of* D. M.*s. Yet doth* Ecebolius *deny that any ever saw his Writings before they were Printed:* "*No man, except my* "Transcriber, *ever saw* my Book *till it was* Printed. —— *This is a notorious* Lye (*except He* Æquivocate) *for one of his* Neigh-bours *saw the* blotted *Manuscript of* Plus Ultra. *And he sent it to Doctor* More *to peruse, before it went to the* Press: *The Doctor told*

They have ransacked *all Corners,* inquired into the *Cabinets* of *Private persons,* & sought out some *Letters of Raillery* written by me, to provide *Materials* for these *Libells.*

told me he altered nothing indeed; but remitted it with a Proverb (for Proverbs and Poetry, he is equal to Mr. Crosse) to this purpose, as if Ecebolius had over-acted in the Dispute. This, Ecebolius confessed to me at Bathe before Doctor F.C. and repeated the Adage, yet said, that he added nothing thereunto. Which I believe may be true: But yet hence it is evident, that he is a Lyer. Except the Virtuosi be Dæmoniacks, two must have seen his Prefatory Answer long before it was Printed, and they above one hundred miles from Bathe: For they repeated it (and I from them to him at Bathe) and said they had seen it: And Doctor M. communicates some Heads of it, which I believe he had not by Inspiration. I could name more; but this is enough to satisfie the world of the Integrity of our Vertuoso, and shew what Credit he deserves. Yet I must add, that the Renegado at Bathe doth transmit his Papers, and hold strickt Correspondence with H. O. a London-Renegado, and he conferrs with the rest of the Renegadoes. Ecebolius did aske Doctor G. of Bathe (as his intimate Friend told me) to help him with an account of the New Inventions in Anatomy: Upon the Publication of Plus ultra, there was some mis-understanding about it: The Cause I know —— About Mr. Crosse, that He hired me, the Gazettier of Chugh doth thus write. "The Reverend "Disputer after this careshed and courted him highly, treated "him at Bathe, and entertained him divers times with dear wel- "come at his House, so that at last He was fastned. I was at his House once, and no more: My welcome was as great as he could at that time expres: But not so as to be reported dear unto him. I have elsewhere published the Truth, nor doth Ecebolius disprove it; but thus Apologizeth for himself —— "I insinuated what "I thought, and had heard in other termes, and if I Lyed, in "Thinking, and Hearing, and giving some Hints of what was re- "ported, and was likely enough to be believed. This is all he re- plies for words so Positive and Peremptory: 'Tis no Insinuati- on, but Assertion: No mention occurres that He was told so, or Imagined so. This Defence recalls to my mind some Passages when Doctor F. C. did bring us two to an Enterview: I complained to him of a multitude of Lyes which he writ, and was going to Print: and desired he would not trouble the world with such Fopperies; for though they would give me Advantages over him, yet I had not Leisure to pursue them. I told him that He had written a Letter (of which I had seen the Original) to Doctor J. Gardiner, how I went from Bristol to Chue in the Company of a Quaker, and that Mr. Crosse and I fell out there, and had gone together by the Ears

Prefat. Ans. P. 190.

In his Letter. P. 29.

(or to this effect) had not the Quaker parted us: That afterwards the Quaker and I came to Briſtol, and there quarrelled, and abuſed each other. This he Comically related to his Friend; But this Relation differs much from that of my **Dear Welcome** at **Chue**. I told him the Perſon that accompanied me was no Quaker, though his Father was one: That I was willing to embrace his Overture of guiding me to Chue, being as great a Stranger to the Way, as unto him. That I was not aſhamed to be in his Company, who was ſo well known to the Lord Brouncker, and the Biſhop of Ch. In ſumm, I ſaid I was confident that He was of the R. S. and in their Catalogue: He denied **that**, and upon the wager of a Guinny, the Hiſtory was conſulted: But it appeared not that He was there (though I was ſure He had been at the R. S.) and I **Payed it**. This hath given Ecebolius ſo much matter of Triumph, whereas it was not a tryal of any **Citation** in the Book againſt **Him**. I convinced him before Doctor F. C. that we had no Quarrel at Chue, nor did I return to Briſtol, but left Mr. M. S. to return alone, and departed ſtreight to Bathe, and Warwick. He then replied, that **He was told ſo**. Juſt ſo D. M. having Printed, that no Civil woman would make uſe of me at Warwick; Deluded himſelf, That he found now that All his Intelligence was not Goſpel. Doth any man imagine it poſſible that **Civil Society** can ſubſiſt, if **ſuch Practices** as theſe be tolerated? Thus Ecebolius tells us of an Oxford Doctor, that ſhould ſay to this purpoſe: "That "Mr. Stubs is ſo great a —— that if he tell you that He was "at ſuch a Gentlemans Table, where this, or that Diſcourſe hap-"pened; you are not to believe as much, as that he knows the Gentleman, or ever ſaw him. —— Whoſoever that Doctor were, and if ever there were ſo miſtaken a Perſon, It did not become Ecebolius to publiſh it, who had ſeen me more than one Summer at Bathe, attending on the Healths of as Honourable Patients as any that Doctor ever was I think in company with. But not to inſiſt on any more **Lyes** (which I am averſe from purſuing, to ſave my ſelf and Reader ſome trouble, and the Clergy that diſgrace, leſt it ſhould be ſaid of one of their number, **He was the moſt Impudent Lyer in the World**). I do hereby demand Ecebolius for my **Vaſſal** and **Victime**. By his **own Promiſe** he is obliged to render himſelf, and if there be any Generoſity in my Adverſaries, they will ſee that He performe it. After he had asked his half-Brother if he were a Thief, and brought **his Certificate**, and the Atteſtation of Jo. a Court to prove the Truth of his **Relation** of the Conference with Mr. Croſſe (which yet I am ſo far from crediting, that

He is a very hopeful Intelligent young Gentleman, and now a Scholar at Cambridg.

Preſat. Anſw. p. 107.

that I will prove out of Ecebolius *himself that they attest a* **Lye**, *and that* it was not **exactly** and **sincerely** *such as* it is reported.) *he adds*: "*Thus I have* proved *my* Relation *for Mr.* Stubb's *Satis-* Prefat. Answ. p. 161.
"*faction: And there is no* other *matter I have related concerning*
"either of them, *but I shall make it good, when-ever I am called*
"*upon to do it: Yea, if they please, I am ready to lay the issue of all*
"*here. If I cannot prove every matter of Fact, that I have print-*
"*ed about them*; *I shall* humbly lay my Neck at their Feet: *And*
"*if on the other hand, either of these Adversaries can prove one of*
"*those reproachful things they have alledged against me, I'll be*
"*their* **Vassal** *and their* **Victime.**—— *In his* Letter *now He*
"*writes*. "*I never said* any thing *of* you, *that I will not justifie*
"*to a* **Tittle.**—— *I writ unto him upon the coming forth of the*
Prefatory Answer, *and having shewed him more* **Lyes**, *and* p. 27.
Specimina *of his* Ignorance *than he now takes notice of*; *I told him to this purpose*; 'Twas in vain to pester the world with Books of Rayling, that I demanded him for my **Vassal**, and would convince him **Formally** where, and when *he please, either before* indifferent Persons at *Bathe*, or before the *R. S.* and my Lord *Brouncker*: And that, if He *declined this*, I *would proceed to* **Post** *him at* London, Oxford, Cambridg, Bathe, *and* Bristol. *All the Answer* I *received is this in* Print, *which is as* pertinent *to what I demanded, as all* He *else writes is to what* I object. I *do here* publickly *make the same* overture: I *will* openly *in any* convenient place, *and before* Intelligent Judges, *prove him a* **Lyer**, *and so* Ignorant *and* Illiterate a Fellow, *that He is not fit to come into any* Learned company, *or to* open his Mouth *amongst them*. I *have already evinced his* Ignorance: *And all the* Impertinence I *am guilty of is this*; *that my* Antitheses *are* Logically *and* Directly *opposite to* his. I *will give an Instance or two, by which the* Reader *may judge.*

Mr. *Glanvill.* Plus ultra. *P.* 7.

"*The* unfruitfulness *of those* Methods *of* Science, *which in so*
"*many* Centuries, *never brought the World so much* Practical Be-
"neficial Knowledg, *as would help towards the* Cure *of a* Cut-*Fin-*
"*ger, is a palpable Argument, that they were* Fundamental Mi-
"stakes, *and the* way *was not* right.

The

The *Antithesis* of H. S.

"I *suppose that the instance* against the Ancient Methods of Science, *since it is restrained to their* Utility *to cure a* Cut-finger, *is particularly directed to* Physick: *For, against any* other Method of Science *the Objection were* ridiculous: *And in opposition to* this Assertion, I *do say*, I *have proved, and will do it to any man, that*

"*The Ancient Methods of Science have brought Physick to a* great perfection, *have explicated so the* Causes of Diseases, *and their Cures, and do so enable us to pass a further judgment upon* new Plants, *and other Discoveries in the* Materia Medica, *as well as* new Diseases, *besides that* they *direct us upon* their Principles *how to* Compound Medicaments *according to* all Intentions, *that neither were they* heretofore, *nor can any* understanding Person (*who acts on* their Grounds) *be at a loss for the Cure of a* Cut-Finger.

Mr. *Glanvill's* Epicrisis.

Pr[illegible]t. Answ. p. 111

"*Do* I *speak of the* Methods *of* Physick, Chirurgery, *or any* Practical Art? *If* I *had done* so *Master* Stubbs *had had reason. But it was* nothing thus, I *had not to do with any thing of* that Nature, *but was discoursing of the* Infertility *of the way of* Notion *and* Dispute, *concerning which* I *affirmed, that it produced no* Practical useful Knowledge.—— *And unless* he *can prove that they did it by the* direct Help *and conduct of the* Notional *Disputing* Physiology, *he will not Sacrifice me to* Publick Obloquy *here, nor say any thing in which* I *am concerned at all.* "*Who ever denied that* Diseases *were cured by* these Physicians, *using* Reason, Experience, *and* General Rules? *But when do you prove that the Doctrine of the* First Matter, *and* Forms, *do* directly, *and of* it self, *lead to* any Discovery *by which they were* assisted *in Cures? This* I *told you was my meaning in* these Words, *which you force to a sense which best befits yhur malicious purpose.*

Ibid p. 112.

In his Letter, p. 12.

The *Dialysis* by *H. S.*

I *did not expect that a man should pretend to* Common Reason, *and*

and yet by alteration of the terms to vary the Subject *of the diſpute. At firſt your* Aſſertion *was concerning* all the Ancient Methods of Science, *of which even the* Empirical Phyſicians *did follow* one; *The* Methodiſts, *or* Corpuſcularian *Phyſicians* another; *and the* Dogmatiſts *or* Hippocratick-Galenical *Phyſicians, a* third; *You now recede from* hence, *and do not only exclude the two former from the* Controverſie, *but the* latter. *You grant that* Diſeaſes *and* Cut-Fingers *were cured by them, they uſing* (*or rather* proceeding upon) Reaſon, Experience, *and certain* General Rules: *But you ſay firſt, that you are not to be underſtood concerning* Phyſick, *or* Chyrurgery *or any* Practical Art? *Truly, had not you limited your Diſcourſe to* Phyſick, *all the* mixt Mathematicks *had been concerned in the Quarrel: But I pray learn* Logick, *eſpecially the Doctrine of* Propoſition, *that you may know how the* Predicate *and* Subject *are* modelled *therein. I appeal to any intelligent* Univerſity-man, *whether I could underſtand you otherwiſe then about* Practical knowledge, Phyſick, *and* Chyrurgery, *ſince you demand a* Practical effect, *and that to be in* Phyſick *or* Chyrurgery. *The courſe you now take is,*

Delphinum ſylvis appingere, fluctibus apros.

You would have me prove that thoſe things may produce Practical Knowledge, which conſiſts in meer Speculation, and terminate there. *If you ever were ſo good a* Diſputant *as you pretend to have been, and miſpent ſo much time in your firſt Studies at* Oxford (*which I believe you did not*) *you could not be unacquainted with the Diſtinctions between* Speculative *and* Practical Sciences *and* Arts: *And you would no more have expected from the* firſt *the* Effects *of the* latter; *than* you (*but alaſs! you have no inſight*

Plus ultra. P. 123.

into the Mathematicks, *as Doctor* H. M. *confeſſed to me lately*; *and the learned* Prelate *hath avowed to* twenty *perſons*; *he to whom* you *ſent* your Book, *and who ſent* you *an* obliging Letter of thanks, *not for* your performances, *but your* Preſent) *then you would expect from pure* Mathematicks *the productions of the* mixt. *Keep your ſelf to this* Poſition *that you were not to be underſtood of any particular* Art, Phyſick, *or* Chyrurgery, *and I will only ſay*, you are Pair-braind, *or a* Mad-Man; *as you call me. But* you *again change the* ſtate of the Queſtion; *for you demand I ſhould prove that the* Ancients *did their Cures by the* direct Help *and* Conduct *of the* Notional Diſputing Phyſiology; *and without I prove this, I do nothing. If the* Phyſicians *do their* practical Science *are not* ſpoken of *nor intended I am not concerned in the* Quarrel: *However to gratifie you with ſome Reply*; *I tell you, that if you mean by* Phyſiology, *that part of* Natural Phyloſophy *which is accommodated unto, and is the* baſis *of the* Dogmatical Phyſicians (*in* Italy *and* Spain *eſpecially*) *I do ſay that by the* direct help *and* conduct *thereof*, they do their Cures; *but I muſt tell you, that in a* practical Science, *or* Art, *'tis not neceſſary that every* part *and* parcel *thereof be* Practical, *as you might have learned at* Oxford: *Neither is it any more neceſſary that to compleat* Phyſick, every point *be determined, and not* diſputed; *then it is to* Mathematicks *that it be decided*, whether there be any ſuch thing in nature as a Mathematical Point, *or* Surfaces; *or* whether the Circle can be ſquared? *Though it hath been diſputed, and is ſtill*, how Viſion is performed, *and* where? *Yet do men* See, *and the* Maſters of Opticks *do Wonders. But you again change the* ſtate of the Queſtion, *whilſt you demand* I *ſhould prove that* the Doctrine of the firſt Matter and Forms, did directly, and of it ſelf lead to any diſcovery

covery, by which they were assisted in their Cures. *I am hereby obliged to prove that* a part shall do as much as the whole: *That* one Round of a Ladder shall mount a Man to the World in the Moon: *Now that the hopes of* flying thither *are disappointed, I am to prove that the* Ancient Methods of Science did enable to cure a cut-Finger: *The Doctrine of the* first Matter *and* Forms *is neither a* Method of Science, *nor* Science, *though a* part of Physiology. *Who is now the* impertinent? *Where lies the charge of* impudence.

Thus *this* Illiterate *Ecebolius doth serve me in* every Case, *that he seems to reply unto almost: the* Citation *of Me.* Boyle *is* true (*bateing the errour of the Press, whereupon he triumphs, I appointed it to be Printed by the Book he followed: And I derive no advantage from the* Variation. *For doth Mr.* B. *say the* Spots were not there, *but that* during many Months, they appeared much seldomer, than it seems they did before. *Is it a true* Maxime *in* Natural Philosophy, *which in* Law *sometimes passeth currently*? Idem est non apparere & non esse. *The* Latine *Edition of Mr.* B. *which was approved by* him, *and which I followed at first, sayes.* Quæ [*maculæ*] per menses aliquot continuos tanto quam antea (uti videtur) rarius apparuere. *He is thus* cautious *I believe, because any man that hath inquired into the* Cælestial Phænomena, *must know that 'tis Recorded how* two *or* more *using* Telescopes *at the same time, have related* different Observations: *At the* same time *that* Galilæo *and* Scheiner *made* their Observations *of those* Spots, *other* Learned Inquisitive *men could* not see them, *or not in the* same places: *For ought I can guess, at the* same time *that Mr.* R.B. *could not see* them *the diligent* Zucchius *might see them with his* Telescopes, *which seem to be the* most accurate

P. 145. Edit. Amstelodam. 1667

of all, because the most constant; *nor doth it* appear *that Mr.* R. B. *by reason of the Weakness of his Eyes, or any in* England *understood their use* so well *as* He. *'Tis his assertion,* "Assero primo, satis constare consensum apparentiarum, sive in locis proxime, sive eadem die, sive pluribus longissime dissitis; sive constanter diebus a peritis Observatoribus adnotentur. *It is not to be doubted but that* skilful Artists *understand the* use *and* placing *of* Telescopes *of* all sorts: *'Tis not to be doubted, but that* their Telescopes *were as* true *when employed on* terrene Objects *at a* due distance, *with a* proportionate Medium, *and* convenient apperture, *as the* Figure *and* confirmation of them *did admit of, and was* requisite *to verifie their Observations* on Earth: *But even on* Earth *there would be no* certainty of the exactness of their Discoveries, *could we not by* near approach *and* sensible Examination *convince our selves* further. *Besides even in* this Air *there happens such* secret Alterations, *that* Kircher *could on some dayes discover* Ætna *from the Isle of* Malta, *which on the* next day *when the Sky seemed much* more clear, *he could* not see. *Now if we apply* all this *to the Cælestial* Phænomena *observed by* Telescopes, *concerning the distance whereof, the* Medium *and the* Nature *of the* Objects *and their* Colours (*whether* Emphatical *or* Real) *we can make no* sensible *and* near Inquiries: *How far are we* short *of all that* Ecebolius *doth prate of? What* consequence *is there in his Argument, that* because they do not deceive us on Earth, *therefore* they will not in the Skie? *In fine, I have demonstrated; That* Telescopes are not so certain as our Eyes: *That* Telescopes do vary their Objects in some things, besides their proportions; *nor are their* Informations *the* same in all things, *but the* mentioned Difference. *Which is* contradictory *to what this* Ignoramns *saith; and whatever*

Zucchius philos. Opt. part 1. c. 18. Sect. viij. p. 232.

Ricciol. Almageſt. nov. l. 10 Sect. 6. p. 660. Prob. 50. See Mr. Glanvill if you can find that in the Index.

ever Mr. Croſſe ſaid, (*of which I am* uncertain) *'tis a ſhame that this* Arrogant *ſhould* Talk *or* Write *thus: and they may bluſh who were* preſent *at, and* had a ſhare in, *and* witneſſed *unto ſo* ridiculous *a piece of* Converſation. *I am to learn a new* Logick, *if my* Antitheſes *be not* contradictory to his Tenets: *and* if they be, *let* him *confeſs* they are pertinent, *and prove them to be falſe: Which the* Virtuoſo *ſaith, that* He hath done: Since all he hath ſaid, or is likely to ſay for ever, is already anſwered in his former account of my Spirits, and Performances. In the Preface to his Letter. *Now,* Gentlemen, *'tis clear that the* R. S. *found out* ſome *of the* Five Inſtruments *ſo famed for advancing Knowledge. Now 'tis evident that the* R. S. *did* firſt propoſe *and* practiſe *the* Transfuſion of Blood: *Who can any longer deny, but that the* Romans *held it* Unlawful *to look on the* Entrails? *And that* Chymiſtry *was not in uſe with* Ariſtotle *and his* Sectators? *Let it paſs that* Tertullian *ſeverely cenſured an inquiſitive Phyſitian* of his time *for this* practiſe [*of* Anatomy] *and that one of the Popes (he takes it to be* Boniface VIII.) *threatned to Excommunicate thoſe that ſhould do any thing of this* then abominable *nature. All theſe things (and many* Falſities *more of which his* Plus ultra *yields me an* Additional ſupply) *are anſwered (and that* pertinently, *and as becomes a* Virtuoſo) *by the* Demonſtration *of the* Malignity of my Temper, *and* Hypocriſie. *I ſhewed how* Eccebolius *complained that* all his firſt Studies *at* Oxford *did not qualifie* him *for the World of* Action *and* Buſineſs: *I do here ſolemnly avow, that* they have Ruined me: *For I thereby am come to ſo* groſs Ignorance, *as not to know what is* pertinent, *or what 'tis to* oppoſe, *and* Anſwer: *and for this Diſcovery, I am redevable to* thoſe generous men that have converſed with real Nature, undiſguiſed with

Art

Art and Notion: *I defie* Ariſtotle, *and renounce the Documents of his* Rhetorick, *wherein he told me that all the* Bitterneſs *and* Exaggerations, *whatever tended to raiſe* Indignation *or other* paſſions *in the Judges, were* Impertinencies *to the* Cauſe in debate *and that the uſe of them to* Judges *was as* ridiculous, *as if one would try to make the* Rule *crooked, the which* He would make uſe of. *I will ſet down the Paſſage, to demonſtrate to the World what a* Fool *he was, and what a crowde of* Silly Fellowes *were the* Areopagites *of old; and I will ſet it down in Greek, though I know* Eccebolius *can do little more than read it (and therefore corrected the* Erratum *of Doctor* More's *Letter by committing* two New ones: *As alſo miſtook the* Text *and title of his Sermon, about* Reaſon *and* Religion) *the Paſſage is this.* Νῦν μὲν οὖν οἱ τὰς τέχνας τῶν λόγων συντίθεντες, ὄλιγον πεποιήκασιν αὐτῆς μόριον· αἱ γὰρ πίστεις, ἔντεχνόν ἐστι μόνον· Τὰ δ' ἄλλα, προσθῆκαι οἱ δὲ περὶ μὲν τῶν ἐνθυμημάτων, οὐδὲν λέγουσιν, ὅ περ ἐστὶ σῶμα τῆς πίστεως· Περὶ δὲ τῶν ἔξω τοῦ πράγματος, τὰ πλεῖστα πραγματευόνται διαβολὴ γὰρ, καὶ ἔλεος, καὶ ὀργὴ, καὶ τὰ τοιαῦτα πάθη τῆς ψυχῆς. οὐ περὶ τοῦ πράγματός ἐστιν, ἀλλὰ πρὸς τὴν δικαστήν· ὥστ', εἰ περὶ πάσας ἦν τὰς κρίσεις, καθάπερ ἐν ἐνίαις νῦν ἐστι τῶν πόλεων, καὶ μάλιστα ἐν ταῖς εὐνομουμέναις, οὐδὲν ἂν εἶχον ὅτι λέγωσιν· ἅπαντες γὰρ, οἱ μὲν, οἴονται δεῖν οὕτω τοὺς νόμους· ἀγορεύειν· οἱ δὲ, καὶ χρῶνται, καὶ κολύουσιν ἔξω τοῦ πράγματος λέγειν, καθάπερ καὶ ἐν ἀρείῳ πάγῳ· ὀρθῶς τοῦτο νομίζοντες· οὐ γὰρ δεῖ τὴν δικαστὴν διαστρέφειν, εἰς ὀργὴν προάγοντας, ἢ φθόνον, ἢ ἔλεον· ὅμοιον γὰρ κἂν εἴτις, ᾧ μέλλει χρῆσθαι κανόνι, τοῦτο ποιήσει στρεβλόν· Ἔτι δὲ φανερὸν, ὅτι τοῦ μὲν ἀμφιβητοῦντος οὐδὲν ἐστιν ἔξω τοῦ δεῖξαι τὸ πρᾶγμα, ὅτι' ἐστὶν ἢ οὐκ ἐστὶν, ἢ γέγονεν ἢ οὐ γέγονεν. *Away with thoſe* Venerable Seats: *Confound that* Notional Learning: *Thoſe* Logical *tricks about* ſhuffling *and* ordering Propoſitions *and* Forms of Syllogiſme, *the diſtinctions of* Secundum quid *and* Sympliciter, *the prædications of* Genus and Species, *&c. are juſtly rejected, and railed upon by* this Virtuoſo: *'Tis* they *have betrayed me to* this Baffle: *'Tis* this *hath made me turn over* Indexes (*and read* Books, *that I might know what to look for in*

in the Index *of such and such an* Author, *and supply the* defects *and* want *of an* Index) *were the* Mechanical Education *received*, *and the* Jesuits Morals *substituted instead of* Aristotle, *and* Thomas Aquinas (*perhaps this was intended in the* puny Society *contrived at* Bathe *and* Bristol, *where new* Hypotheses *of* Morality *were to be proposed*) *then* Lying (*if serviceable*) *were as good as* Truth, *and* Poor Robbins Almanack, Montelion, *or* Glanvill, *as good Authors as* Ricciolus, *and* Zucchius: *The authority of* Hadrianus Junius *should be* baffled *by those who had not* opportunity (*or were negligent*) *to enquire exactly into the* Original of Printing: *And let the States of* Zealand *inquire, and judge never so uprightly concerning* matter of Fact (*done in their own Country,*) *and let* Borellus *publish it in Print; yet shall* Metius *have the glory of the* first Invention, *and* Galileo *be he that* first *applyed it to the Stars. But upon* second Thoughts, *I believe that the* World *of* business and Action *is not such as* Eccebolius *talketh of, that the* Mechanical Education *is the most* Extravagant Folly *imaginable: That, to* Preserve our old Religion, *'tis absolutely necessary that we retain our* Old Learning: *that there is a greater value to be placed on* Controversial Divines, *then our* Virtuoso *do allow of in* their Letter *against* me; *and perhaps one* Jewel, Lawde, Andrews, Davenant, Whitaker, Chillingworth, Scaliger, Grotius, Selden, Causabon, *or* Salmasius *may ere long be more* serviceable *unto* Monarchy *than a* Fleet of Ships, Thirty thousand Horse and Foot, *or* Three hundred Thousand Virtuosi: *I do not reckon my* Adversaries *amongst the* Military *strength of the Nation, because they have abandoned their* Standard: The Standard of English Eloquence: *and when the people have a* little more *observed them, the* Works *which they have atchieved in* Six Years *above all that e-*

Plus Ultra: p. 42.

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ver the Aristotelians *ever effected, will only conduce to the* Improvements of Raillery; *We shall perceive that we have been out of the* Way *all this while; that the interests of a* Lineal *and* Hereditary Monarchy *are different from those of any* Usurper; *and if my* Olivarian Addversaries *may understand what* Arts *are subservient to the* advancing, *or continuing of a* Cromwell, *a* Regecide: I *am content to dissent* once more *from them in behalf of the* present Monarchy, *the* Church of England, *the* Universities, *and my own* Faculty: *And* I *think it is no* ill Prayer *for me to use, nor no argument of* Faction *and* disloyalty *to wish, that* God would endew many others with such a malignity of Temper, and such Hypocrisie as I am now possessed with.

They hindred Four Books of mine in *Michelmas* Term from being Licensed, though they contained *nothing* repugnant to the *Morarchy, Church*, or *Good Manners*

I *shall not dismiss* Eccebolius *nor the* Quarrel *thus:* I *desire that all ingenious Persons would solicite for me to have the* Liberty of the Press; *and importune the* Virtuosi, *that* Eccebolius *may render himself my* Vassal, *and do his* Homage *and* Swear Fealty: *if he do so. Sir* H. Spelman *will tell him his Style is a* Lewd Fellow, *and a* Villain: *if he do not* make good his word. He *will deserve those Elogies upon* another *account.* I *will not make a* Victime *of* Him; *the* Christian Law *hath put an end to all* Sacrifices: *And that which is* Levitical, *doth exclude* Unclean Beasts *from the number of* Temple Offerings: I *am not so* angry *as to turn* Paynim, *that I may be revenged on the* R----- *otherwise, since* Doggs *and* Asses *were of old Sacrificed to* Mars, *and* Black Sheep *to* Pluto; *the World could not yield a more* Agreeable Victime *for* either. *He shall live* for me (*which is more then* my Adversaries *desire I should do*) *except the* Devil claim his due, *and then I ought to be* just, *if* Old Proverbs *may pass current amongst* New Phylosophers: They *are more of* kinn, *and a greater is the af-*

△ Id Cor. 6.

affinity of the Name, *than* Stubb and Stubbs *yet to ſhew my* Pedigree, *he tells me in the* preface to the Preparatory Anſwer, *of the* Stubb's *that were hanged for* Treaſon: *'tis a* Thin kindred that yields neither Whore nor Rogue: *There are more of the* Glanvills *beſides* him *that diſgrace the* Family: *However,* He *ſhould not have changed the* Terms *again, and given me Allegations of* one Francis Stubbs *that was* Executed, *and one* John Stubbs, *whom* Cambden and Marten *admire for that* Bravery *which he ſhewed at the* Cutting off of his Hand: *He took off his Hatt immediately thereupon with the* remaining hand, *and cryed* God bleſs the Queen, *nor did* He *ſuffer for* Treaſon, *his Book contained not ſo much of* Reproaches againſt the Queen, as Reaſons againſt her Marriage with a French Papiſt. *Now let us obſerve* from hence *the* Logick *of our* Virtuoſo: *How doth it appear that the* Stubb's were hanged for Treaſon in former Reigns: *Here is but* one *ſo Executed, and he not of* my Name; *and I am too little acquainted with my* Pedigree *to claim Kindred with either of the* Perſons *alledged.*

As to the Univerſities, *although it matter not what* Ecebolius *ſaith in* behalf of them, *becauſe he doth not underſtand* What he commends; *yet ought he to be* blamed *for detracting* from them, *leſt it turn to the* univerſal *Detriment of the* Monarchy *and* Religion. *The paſſage I cited, is too* odious *to be* thus *excuſed: And even now he rejects their* Logick, Natural Philoſophy *and* Metaphyſicks; *each whereof he is unacquainted with. As much as he pretends to have ſtudied* Ariſtotle (*whom I am ſure he cannot Conſtrue*) *and the* Peripatetick Phyſiology, *yet did he not know that* Ariſtotle *held the* Gravity of the Ayr, *and was therein followed by the* Avinceniſts & Averroiſts, *whoſe* Authority *alone was principally received in the* Arabian

Schools, and generally amongst the Western Christians, *till the* Laterane Council *put a check to the* Averroists. *As for* Logick, *he knows not* what it is, *either in the* Practise *or* Notion; *without* Good skill *therein, 'tis impossible for a man to* benefit himself *considerably in the* Studies *which our* Virtuoso *doth allow of: or without* Metaphysicks *to defend the* Christian Religion *and* Protestancy, *or explain the* 39. Articles, *Athanasian, and* Nicene Creeds. *But He spoke in* my hearing *with much contempt of the* Thirty Nine Articles, *saying,* Three of them were calvinistical: *And as to the* Athanasian Creed, *He doth never read it, and usually declaims against it; and told Doctor* J. M. *that* he would Burn before he would read it. *Thus he (not to speak of his curtailing the* Common Prayer, *and dis-use of the* Surplice *lest the* pulling it off *should* Discompose his Periwigg) *observes* his Subscriptions *and the* Laws of the Land! *As to what he cites out of his Letter against* Aristotle, *had he prooceeded the words would have been these:* "*I blame not therefor the use of* Aristotle *in the* Universities "*among the* Iunior *Students, though I cannot approv the streightness and sloath of* Elder Dijudicants, *from* "*whom a more generous temper might be expected, than* "*to sit down in a contented despair of any further* "*Progress into Science, than hath been made by their* "Idolized Sophy *and depriving themselves and all* "*this World of their* Liberty *in* Phylosophy *a* Sacra-"mental adherence *to an* Heathen Authority. *And* "*I confest 'twas this,* Pedantry, *and* Boyishness "of humour *that drew from me those Reflections* "*I directed against* Aristotle ——*This too must pass as* allowable; *must it?* Pedantry *and* Boyishness of humour *is fixed upon the* Governours of the Universities, *how* Sage *and* Reverend *soever they be; and* what rank soever *they hold in* Church *and* State;

State; *The man of* Stagiaa *is said to be their* Idolized Sophy, *and they charged to deprive themselves and all* this World *of their Liberty in Philosophy by a* Sacramental adherence to an Heathen Authority. *I will not* exaggerate *this passage, but leave it to the consideration of all* Intelligent men, *whether this be not a* Libelling of the Universities, *and the* King *their* Founder, *and from whose Authourity* their Statutes *have force. Is it fit that such an* Ignorant, Inconsiderate Fellow *as* Ecebolius *should thus animadvert upon the Demeanour of those who are so much* his Superiours, who act according to their Statutes, *and who understand the danger of any* Innovation in Learning *under an* Hereditary Monarchy, *as well as they do the* Civil Consequences *it would draw upon the* Church: *They are sensible of the* present dammage *which it hath* done; *they know the* Character *of us* Islanders *too well, to* comply *with it: they know it is not requisite to the* Being, *or* Well-Being *of an* Ancient *Government to introduce such a* charge; *and that 'tis absolutely necessary that* this *do oppose it. Besides the* Fatal presidence *which* Ancient History, *& even the* Records of both Universities, *to suggest in reference to* Changes of lesser moment, *they know that the* Papists *do allow this* Philosophical Liberty *to some of their* Members *rather to* distract us, *then that they approve it; and that* their Church *hath a* power to remedy any inconvenience, *which we have not: That in their* Colledges they *reverence* Aristotle *as much as* we: * *That the* University of Lovaine *hath censured* Cartesian *Philosophy; and that the* Belgick Universities *have suppressed it publickly. I shall relate the degree of* Utrecht, *because it contanis the* Motives *they went upon, and the prejudice they found to arise from the New Philosophy.* "Ultrajecturiæ Academiæ, judicium hoc "est, *Professores Acad. Utraij reijcere* Novam istam

* See the Judgement and Reasons of the Lavain Doctors, in the end of the second Edition of Plempius's Fundament. Medica p 3, 5 &c. Jac du bois contra Witichium. in pref.

" Philoſophiam; *primo quia* veteri Philoſophiæ, *quam*
" *Accademiæ toto orbem terrarum hactenus* optimo con-
" ſilio *docuere, adverſatur, ejuſq; fundamenta ſub-*
" *vertit. De inde quia juventutem a* vetere & ſana
Philoſophia *avertit*, impediq; quo minus ad culmen
" eruditionis provehatur, *eo quod iſtius præſumptæ*
" *Philoſophiæ adminiculo techanologemata in authorum*
libris, Profeſſorumq; lectionibus ac diſputationibus uſi-
" *tata percipere nequit. Poſtremo quod ex eadem con-*
" *trariæ* falſæ & abſurdæ Opiniones *partim conſe-*
" *quantur partim ab improvida juventute deduci poſ-*
" *ſint, pugnantes cum* cæteris diſciplinis *ac* facultari-
" bus, *atq; imprimis cum* Orthodoxa *Theologia.*——
To what an heighth of Impudence *and* Arrogance *it hath tranſported* Ecebolius, *is manifeſt*: *Nor are his* Abettors *leſs moderate*: *The* Hiſtory *contains the* like Suggeſtions *as I have ſhewed*: *And the* Anonymous Epiſtoler *doth fly as high*: *'Tis ſtrange a* Doctor of Divinity *ſhould write ſo; and more, that he ſhould thus defend the paſſage I animadverted upon, in a* Manuſcript *not yet publiſhed, but communicated to others; the reply to what I ſay* (*p.*42. and 29.) *how he makes the* Vniverſities Lands alienable, *is*: They *moſt*
" *were deſigned for another kind of* Worſhip than what
" is now in uſe: And they may be changed in one
" as well as in another Particular for the better.
" But I ſpeak not againſt uſeful and modeſt diſputa-
" tions, but againſt Barbarous and conceited Terms.——*Reader, The* Subject of the Queſtion *betwixt* him *and* me, *is* Controverſial Divinity; *not the* Barbarous *and* conceited Terms *therein. Who can* Diſpute *with ſuch men as theſe?*

It may not be impertinent to this ſubject *for me to take notice of a paſſage of* Mr J. E. *concerning the* Univerſities, *which though it be more favourable to* Theology *then this* laſt Author *would allow of, yet did it not*

become

become Him to write, it being very derogatory to the Universities.——"That might redeem the World from the Insolency of so many Errours as we find by daily expe-
"rience will not abide the Test, and yet retain their
"Tyranny; and that by the credit only of, and ad-
"dresses of those many Fencing-Schooles which have
"been built (not to name them Colledges) and en-
"dowed in all our Universities: I speak not here of those
"reverend and renowned Societies which converse with
"Theology, cultivate the Laws Municipal or forreign;
"but I deplore with just indignation, the supine neg-
"lect of the Other, amongst such numbers as are set a-
"part for empty and lest fruitful Speculations——
These are his words in the Dedication of Nadius's Instructions concerning a Library (out of which Dedication I find T. S. to have stollen his Dedication to the King, only he multiplyed the Errours of his Original) out of which 'tis manifest, that Mr. J. E. did not understand the Constitution of our Universities; for we have no such Fencing-Schools (not to name them Colledges) built and endow'd to any such purpose as he speakes of: nor any numbers set apart for lesse fruitful and empty speculations, then the Virtuosi do pursue. 'Tis true, there is a Professour of Natural Philosophy in Oxford; and that the Scholars in the Course of their Studies, are obliged to employ a part of their time in Logick, Physicks, and Metaphysicks: And the reason, is because that the interest of our Monarchy is an Interest of Religion, and the support of the Religion established by Law is complicated with, and depends upon those Studies: 'Tis no lesse then impossible for any man to understand or manage the controversies with the Papists (and our Church is framed principally in opposition to them; as appears by our Articles, and Homolies: and the Monarchy subsists only by that opposition) without a deep knowledge of those Sciences: As any ma must know who hath inspected no more

than

than the Controverſi of the Eucharift, *wherein the Doctrine of* ſubſtance, *&* accidents, *of* Quantity *diſtinct from* Matter *of* Ubication, *&c. is ſo requiſite to be* underſtood, *that the* proteſtants *ſuſtain the diſpute without them: For if we change our* Notions *in* Natural Philoſophy, *we then differ in the* principals of diſcourſe; *and where men differ* therein, *'tis impoſſible for them to* proceed. *In all diſcourſe there muſt be ſome common* ſuppoſitions *and* definitions *admitted of; and every man that is* convinced, *is* convinced *by ſomewhat* which he already holds: *By the change agitated, and now* purſued, *we make our ſelves* incapable *of convincing a* papiſt: *and conſidering the prejudices of* long Education, *and the* Authority *of the* Catholick Church, *we muſt render our ſelves in their* judgment *as* Perfect Fooles; *and not be able* to proceed, *is in this* caſe *all one as to be* baffled. *Beſides, I cannot comprehend, and I do inculcate it to our* Church *and* States-men, *That no new diſcovery in* Natural Philoſophy *can countervaile that* dammage *which the* publick *will receive by this change of* Phiſioligical principles: *for beſides what we ſhall ſuffer in the* preſent management *of diſputes, and thoſe* dangers which uſually accompany all Changes (*which are ſuch as no* wiſe man *would* introduce *them, in a* ſettled *Government, though he comply therewith when they are* unavoydable) *we ſhall ſo diſparage all the* Reverend Fathers *&* Writers *of our Church, and of* precedent Ages, *that their* Authority *and* Repute *will ceaſe and what they have* written *become univerſally* contemptible, *when their* Philoſophical Notions *ſhall be deſpiſed, and each* ſimilitude, *or* illuſtration *ſeem* ridiculous *to* every boy. *'Tis moſt certain, that* we know the inconveniencies of our preſent condition, and know we can ſubſiſt and flouriſh under them: *but* we do not know the inconveni-

veniences we ſhall run into, nor any befiting remedy for them.

I did in a private Letter *upbraid* Ecebolius *with* [illegible] *in omitting a paſſage of* Dr. H. Moor's *Letter, wherein he declared, that He payed not any of* thoſe weekly Contributions, *no nor ſo much as* Admiſſion-money; *as was uſual. I could not believe the Dr. ſo* Diſingenuous *as to deny it, or equivocate, as he ſeemed to do in the Caſe: but he himſelf told me* what was omitted, *he was* troubled at it, *and proteſted upon* the Faith of a Chriſtian, *that 'twas done* without his knowledge: *and that He impowred* Ecebolius *to* print the whole Letter. *Let the World now judge of the demeanor of* Ecebolius, *imagine* how He ſerves me, *who thus abuſed* his beſt Friend. *He replies for himſelf, that* he omitted that Meaning, becauſe it ſeemed to be ridiculous. *But he might have known, that I reckoned upon all thoſe* Catalogues of their Fellows, as falſe, *where ſuch were accounted on, as neither hold* Correſpondence with the reſt, *nor* Pay the uſual Contributions. *All the miſtake of mine was that I ſuppoſed him* to have payed Admiſſion-money; *and ſo to have been* heretofore *of the* R. S. *Whereas* He never payed ſo much as that; *and the* Fineſs *is more manifeſt, that they pick up a* company of men, *and deſire* they would augment the Speciouſneſs of their Catalogues, *and* ducquoy others; *and they will ask no more of* them. *The excuſe of* Ecebolius *is the more* unpardonable, *becauſe at our Enterview at* Bathe, *I told him* this very thing *before Doctor* F. C.

P. 33.

See my Preface againſt T. S.

In his Letter, p. 12.

I forgot to take notice of one paſſage in Ecebolius *about* Flavius Goia, *that* He *invented the* Compaſs.

He

He acknowledgeth that it is a mistake: *but 'tis an errour of the* Press: *it should have been* Flavius, *or* Goia. *He is confident it was so in his Copy: and that he was sensible of the mistake committed about it elsewhere. But I am confident the mistake was not in the* Printer, *but* Author: *for in his* Plus ultra, *He doth make* Flavius Goia *of* Amalphis *to be the discoverer of the* Compass: *whereas all the best Writers say, the* inventor *was either* Flavius *of* Amalfi; *or* Johannes Goia (*or* Gira) *of* Melfi.

P. 80.

FINIS.